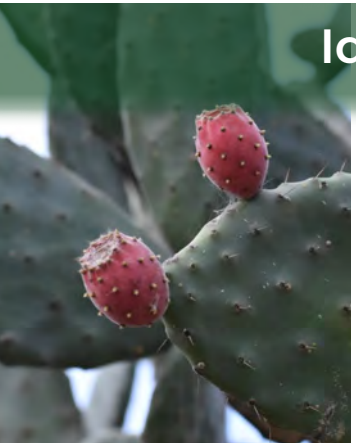
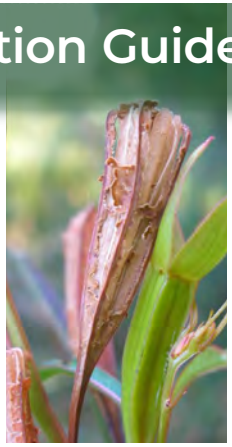
Priority Weeds

of the Murray and Riverina Regions

Identification Guide





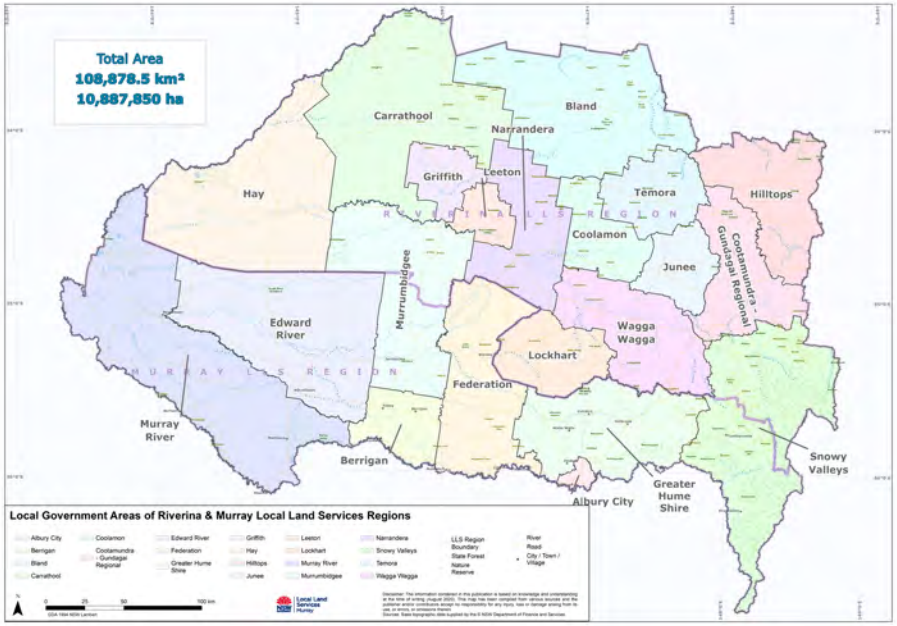


NSW GOVERNMENT Local Land Services

Murray and Riverina WAP

This publication has been updated through collaboration between the Murray and Riverina Local Land Services Regional Weeds Committees - previously the *Eastern Riverina Noxious Weeds Advisory Group* (ERNWAG) and the *Western Riverina Noxious Weeds Advisory Group* (WRNWAG).

The Regional Weed Committees are local community advisory groups established under the Local Land Services Act 2013. The Committees provide strategic planning and co-ordination of priority weed management at a regional level and report to the respective Local Land Services Boards. The Regional Weeds Committees have oversight of the Murray and Riverina Regional Strategic Weed Management Plans. Representation on the Committees include Local Control Authorities (Councils), NSW Department of Primary Industries, Office of Environment and Heritage, NSW Parks and Wildlife Service, Crown Lands, Forestry Corporation, owners/ managers of key infrastructure and transport corridors, Local Aboriginal Land Council, NSW Farmers, Landcare and Murray and Riverina Local Land Services. The combined guide covers 21 Local Control Authorities (Councils) across 2 Local Land Services regions.



This edition of the weed guide includes the new legislation changes of *The NSW Biosecurity Act 2015 (The Act 2015)* which has repealed the *Noxious Weeds Act 1993*. *The Act 2015* promotes the principle of "shared responsibility" for weed management. It applies to all land equally across NSW, whether it is public or private. *The Act 2015* contains a range of new regulatory tools and a General Biosecurity Duty that supports a tenure neutral approach to managing weed biosecurity risk.

Acknowledgements

This guide has been developed through funding provided by the Department of Primary Industries through the Murray and Riverina Weed Action Programs.

It has been based on the earlier version '*Weeds of the Riverina. Identification and Control Guide*' which was developed by the then Eastern Riverina Noxious Weeds Advisory Group (ERNWAG) and the Western Riverina Noxious Weeds Advisory Group (WRNWAG) with the support of Paula Bosse.

Species contained in the guide are identified as priority weeds within the Murray and Riverina Regional Strategic Weed Management Plans.

Graphic design and illustrations have been provided by Petaurus Education Group.
All images within the book were sourced from https://weeds.dpi.nsw.gov.au unless otherwise stated.

Murray and Riverina Local Land Services Regional Weed Coordinators have contributed to the collection of information and review.

Local Control Authority Biosecurity Weeds Officers of the Murray and Riverina regions for their feedback and photos.

Other weeds professionals and interested parties who have provided photos.

Disclaimer

The information contained in this publication is based on knowledge and information available at the time of writing. While the information contained in the document has been formulated with all due care, because of advances in knowledge, the users of the publication are responsible for assessing the relevance and accuracy of the content. Accuracy of information can be checked with the Local Council Biosecurity Officer or an independent advisor.

Contacts

Local Control Authorities Biosecurity (weeds) Officers are available to provide advice and assistance for weed management.

Murray Councils

Albury City Council - 02 6023 8111

Berrigan Council - 03 5888 5100

Edward River Council - 03 5898 3000

Federation Council - 02 6033 8999

Greater Hume Council - 02 6036 0100

Murray River Council - 1300 087 004

Murrumbidgee Council - 02 6960 5500

Snowy Valleys Council - 1300 ASK SVC (275 782)

Riverina Councils

Bland Council - 02 6972 2266

Carrathool Council - 02 6965 1900

Cootamundra Gundagai Council - 1300 459 689

Coolamon Council - 02 6927 316

Griffith Council - 02 6962 8100

Hay Council - 02 6990 1100

Hilltops Council - 1300 445 586

Junee Council - 02 6924 8100

Leeton Council - 02 6953 0911

Lockhart Council - 02 6920 5305

Murrumbidgee Council - 02 6960 5500

Narrandera Council - 02 6959 5510

Snowy Valleys Council - 1300 ASK SVC (275 782)

Temora Council - 02 6980 1100

Wagga Wagga City Council - 02 6926 9100

Murray Local Land Services

Regional Weed Coordinator - 02 6051 2200

Riverina Local Land Services

Riverina Office - 1300 795 299

NSW DPI Reporting Suspected Prohibited Weeds

NSW DPI Biosecurity Helpline 1800 680 244

Email: weeds@dpi.nsw.gov.au

The NSW Biosecurity Act 2015

The NSW Biosecurity Act 2015 (The Act 2015) has replaced the *Noxious Weeds Act 1993* (repealed). NSW Department of Primary Industries (DPI) administer the *Biosecurity Act 2015* and determine the weed species covered by regulatory tools such as Prohibited Matter, Control Orders and Biosecurity Zones. All other species are subject to a "General Biosecurity Duty" and different regions may have specified legally enforceable control measures for different weeds species.

Local Control Authorities (Local Councils and County Councils) in NSW are responsible for enforcing Biosecurity (weed) Legislation and responding to circumstances where weeds are not being managed and/or are causing a biosecurity risk or impact. This includes such activities as conducting weed inspections on both public and private property; providing education, training and resources for both the public and staff in relation to weed management; administering and ensuring compliance with any of the above regulatory tools; and responding to breaches of the *The Act 2015*. The aim is to reduce the impacts of weeds on the environment, economy and for the community's social well-being.

Regulatory Tools

Biosecurity Matter: Biosecurity Matter refers to any living thing (other than a human), disease or contaminant of any type, and anything declared by regulation, to be a biosecurity matter. This means that weeds and invasive plants are subject to a General Biosecurity Duty. It is everyone's responsibility to be compliant to that Duty.

Prohibited Matter: There are specific weeds and invasive plants that are listed as "Prohibited Matter". A person who deals with any prohibited matter throughout the State is guilty of an offence. You can find a list of specifically prohibited weed matter (terrestrial and aquatic) in The Act 2015 Schedule 2.

Mandatory Measures Regulation: May require persons to take specific actions with respect to weeds or carriers of weeds.

Control Order: Establishes one or more control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Control orders are for managing weeds under approved eradication programs and last for five years (or can be renewed for longer-term eradication programs). Requires all parts of the plant to be destroyed and not be moved.

Biosecurity Zone: Aims at containment of a species and provides for ongoing strategic management in a defined area of the state. A Biosecurity Zone specifies the measures that must be taken in the defined area to manage the weed.

Regulatory Tools

General Biosecurity Duty: Requires any person dealing with biosecurity matter or a carrier of biosecurity matter and who knows or ought to know of the biosecurity risks associated with that activity to take measures to prevent, minimise or eliminate the risk as far as is reasonably practicable. Specific measures to reduce the risk will be detailed in the regional weed plans for priority weeds on the following pages. Note, however, that the General Biosecurity Duty exists for all weeds that present a biosecurity risk and failure to comply with the Biosecurity Duty us an offence under The Act.

Regional Recommended Measure: The plant should not be bought, sold, grown, carried or released into the environment.

Regional Priority Weeds

The table below lists the weed categories applied to regional priority weeds following an objective and repeatable risk assessment. The risk assessment is based on the factors such as invasiveness, impacts, potential distribution, cost of control, persistence and current distribution. An expert panel applied the NSW Weed Risk Management system to species of concern for both the Murray and Riverina regions. This risk assessment result is reflected in the regional priority weeds table.

Category	Objective	Weeds in this Category
Prevention	To prevent the weed species arriving and establishing in the region.	These species are not kown to be present in the region. They have a high to very high weed risk (highly invasive and high threat) and have a high liklihood of arriving in the region due to potential distribution and/or an existing high-risk pathway.
Eradication	To permanently remove the species and its propagules from the region OR to destroy infestations to reduce the extent of the weed in the region or a part of it with the aim of local eradication.	These species are present in the region to a limited extent and only the risk of re-invasion is either minimal or can be easily managed. They have a high to very high weed risk and high feasability of coordinated control.
Containment	To prevent the ongoing spread of the species in all or part of the region.	These species have a limited distribution in the region. Regional containment strategies aim to prevent spread of the weed from any invaded part of the region.
Asset Protection	To prevent the spread of weeds to key sites/assets of high economic, environmental and social value, or to reduce their impact on these sites if spread has already occurred.	These weed species are widespread and unlikely to be eradicated or contained within the regional context. Effort is focused on reducing the weed threats to protect high value assets.
Species of Concern	To minimise the biosecurity risk of these weeds as reasonably practicable using the General Biosecurity Dut.	These are weeds of concern that have been identified for local managament plans and coordinated campaigns by the community and other stakeholders in the region.

Regional Priority Weeds

The following table includes the category given to regional priority weeds species for the Murray and Riverina regions. The table demonstrates compliance with the General Biosecurity Duty to prevent, minimise or eliminate as applicable. General Biosecurity Duty applies to **all** weeds.
(SP) = State Priority and **(WoNs)** = Weed of National Significance.

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
African boxthorn (WoNs)	*Lycium ferocissimum*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	110
African lovegrass	*Eragrostis curvula complex*		Species of Concern	General Biosecurity Duty.	42
Alligator weed (WoNs)	*Alternanthera philoxeroides*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	21
Anchored water hyacinth	*Eichhornia azurea*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	36
Asparagus weeds (WoNs) (SP)	*Asparagus aethiopicus, A. africanus, A. plumosus, A. scandens*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	53-58
Athel pine (WoNs)	*Tamarix aphylla*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	111
Bathurst burr	*Xanthium spinosum*	Species of Concern	Species of Concern	General Biosecurity Duty.	59
Bear-skin fescue	*Festuca gautieri*	Species of Concern	Species of Concern	General Biosecurity Duty.	43
Bellyache bush (WoNs)	*Jatropha gossypifolia*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	112
Bitou bush (WoNs)	*Chrysanthemoides monilifera subsp. Rotundata*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	113
Bitter stonecrop	*Sedum acre*	Species of Concern	Species of Concern	General Biosecurity Duty.	60
Black knapweed	*Centaurea xmoncktonii*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244	78
Black willow (WoNs)	*Salix nigra*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	140
Blackberry (WoNs)	*Rubus fruticosus spp. agg.*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	114
Blue heliotrope	*Heliotropium amplexicaule*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	61

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Boneseed (WoNs)	*Chrysanthemoides monilifera subsp. Monilifera*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	115
Box elder	*Acer negundo*	Species of Concern		General Biosecurity Duty.	--
Bridal creeper (WoNs)	*Asparagus asparagoides*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	53
Bridal veil creeper (WoNs)	*Asparagus declinatus*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	54
Broomrapes	*Orobanche spp. (all species except the native O. cernua var. australiana and O. minor)*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	62
Buffalo burr	*Solanum rostratum*	Species of Concern	Species of Concern	General Biosecurity Duty.	63
Cabomba (WoNs)	*Cabomba caroliniana*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	22
Caltrop	*Tribulus terrestris*		Species of Concern	General Biosecurity Duty.	64
Camel thorn	*Alhagi pseudalhagi*	Species of Concern		General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	116
Cane needlegrass	*Nassella hyalina*		Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	44
Cane needlegrass (Wagga City Council)	*Nassella hyalina*		Containment	General Biosecurity Duty.	44
Cape tulips	*Moraea flaccida and M. miniata*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	65
Cat's claw creeper (WoNs)	*Dolichandra unguis-cati*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	118
Chilean needlegrass (WoNs)	*Nassella neesiana*	Containment	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	45

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Chinese violet	*Asystasia gangentica*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	66
Columbus grass	*Sorghum x almum*	Species of Concern	Species of Concern	General Biosecurity Duty.	50
Coolatai grass	*Hyparrhenia hirta*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	46
Creeping knapweed	*Rhaponticum repens*	Containment		General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	79
Devil's claw	*Ibicella lutea or Proboscidea louisianica*		Species of Concern	General Biosecurity Duty.	68
Eurasian water milfoil	*Myriophyllum spicatum*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	23
Fireweed (WoNs)	*Senecio madagascariensis*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	69
Flax-leaf broom (WoNs)	*Genista linifolia*	Eradication	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	119
Frogbit	*Limnobium spp.*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	24
Galenia	*Galenia pubescens*	Species of Concern		General Biosecurity Duty.	70
Galvanised burr	*Sclerolaena birchii*	Species of Concern	Species of Concern	General Biosecurity Duty. This is a native plant. Check native vegetation requirements before undertaking control.	120
Gamba grass (WoNs)	*Andropogon gayanus*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	47
Golden dodder	*Cuscuta campestris*	Species of Concern	Species of Concern	General Biosecurity Duty.	71

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Gorse (WoNs)	*Ulex eurapaeus*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	121
Green cestrum	*Cestrum parqui*	Containment	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	122
Grey sallow (WoNs)	*Salix cinerea*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	141
Harrisia cactus	*Harrisia martinii and H. tortuosa*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	73
Heteranthera/ Kidneyleaf mud plantain	*Heteranthea renifomis*	Prevention	Prevention	General Biosecurity Duty.	27
Himalayan honeysuckle	*Leycesteria formosa*	Species of Concern	Species of Concern	General Biosecurity Duty.	--
Honey locust	*Gleditsia triacanthos*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	123
Horehound	*Marrubium vulgare*	Species of Concern	Species of Concern	General Biosecurity Duty.	75
Horsetail	*Equisetum sp.*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	76
Hydrocotyl/ Water pennywort	*Hydrocotyle ranunculoides*	Species of Concern		General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	25
Hymenachne (WoNs)	*Hymenachne amplexicaulis*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	26
Indian fig	*Opuntia ficus-indica*		Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	97
Johnson grass	*Sorghum halepense*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	51
Karoo acacia	*Vachellia karroo (syn. Acacia karroo)*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	124
Khaki weed	*Alternanthera pungens*	Species of Concern	Species of Concern	General Biosecurity Duty.	77

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Kochia	*Bassia scoparia (excluding subsp. trichophylla)*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List	81
Koster's curse	*Clidemia hirta*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	125
Lagarosiphon	*Lagarosiphon major*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	28
Lantana (WoNs)	*Lantana camara*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	82
Lippia	*Phyla canescens*		Species of Concern	General Biosecurity Duty.	83
Long-leaf willow primrose	*Ludwigia longifolia*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	29
Madeira vine (WoNs)	*Anredera cordifolia*	Asset Protection	Asset Protection	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	84
Mesquite (WoNs)	*Prosopis spp.*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	126
Mexican feathergrass	*Nassella tenuissima (syn. Stipa tenuissima)*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	48
Miconia	*Miconia spp. (all species)*	Prevention	Prevention	General Biosecurity Duty. PROHIBITED MATTER: If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	85

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Mikania vine	*Mikania micrantha*	Prevention	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List	86
Mimosa (WoNs)	*Mimosa pigra*	Prevention	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	127
Montpellier/ Cape broom (WoNs)	*Genista monspessulana*	Containment	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	117
Mother-of-millions	*Bryophyllum spp.*		Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	87
Mouse-eared hawkweed & Orange hawkweed (SP) - **RLLS**	*Hieracium pilosella* & *Hieracium aurantiacum*	Eradication	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW. This plant is on the National Environmental Alert List.	74
Ox-eye daisy	*Leucanthemum vulgare*	Containment	Containment	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	90
Parkinsonia (WoNs)	*Parkinsonia aculeata*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	128
Parthenium weed (WoNs)	*Parthenium hysterophorus*	Prevention	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	91
Perennial ground cherry & Prairie ground cherry	*Physalis longifolia* & *Physalis hederifolia*	Containment	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	72
Pond apple (WoNs)	*Annona glabra*	Prevention	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	129

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Prickly acacia (WoNs)	*Vachellia nilotica (syn. Acacia nilotica)*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	130
Prickly pear (WoNs)	*Cylindropuntia spp.*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be imported into the state or sold in all or parts of NSW.	95-96
Prickly pear (WoNs)	*Opuntia spp.*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	98-101
Privet (broad-leaf)	*Ligustrum lucidum*		Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	131
Privet (narrow-leaf)	*Ligustrum sinense*		Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	132
Ragwort	*Senecio jacobaea*		Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	102
Red rice	*Oryza rufipogon*	Species of Concern	Species of Concern	General Biosecurity Duty.	30
Reed canary grass	*Phalaris arundinacea*	Species of Concern	Species of Concern	General Biosecurity Duty.	--
Reed sweetgrass	*Glyceria maxima*	Species of Concern	Species of Concern	General Biosecurity Duty.	--
Rhus tree	*Toxicodendron succedaneum*	Species of Concern	Species of Concern	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	133
Rubber vine (WoNs)	*Cryptostegia grandifolia*	Prevention	Prevention	General Biosecurity Duty. **PROHIBITED MATTER:** If you see this plant report it. Call the NSW DPI Biosecurity Helpline 1800 680 244 This plant is not to be sold in all or parts of NSW.	134
Sagittaria (WoNs)	*Sagittaria platyphylla*	Containment	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	31
Salvinia (WoNs)	*Salvinia molesta*	Prevention	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	32
Scotch & Illyrian thistles	*Onopordum spp.*	Species of Concern	Species of Concern	General Biosecurity Duty.	89
Scotch broom (WoNs)	*Cytisus scoparius*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW. Containment in Snowy Valleys.	135
Senegal tea plant	*Gymnocoronis spilanthoides*	Prevention	Prevention	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW This plant is on the National Environmental Alert List.	33

Regional Priority Weeds

Common Name	Scientific Name	Murray LLS Region	Riverina LLS Region	Biosecurity Duties	Page No.
Serrated tussock (WoNs)	*Nassella tichotoma*	Eradication	Eradication	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	49
Siam weed	*Chromolaena odorata*	Prevention	Prevention	General Biosecurity Duty.	136
Silk forage sorghum	*Sorghum spp. hybrid cultivar "Silk"*	Species of Concern	Species of Concern	General Biosecurity Duty.	--
Spiny emex	*(Emex australis Steinh.)*	Species of Concern	Species of Concern	General Biosecurity Duty.	104
Tangled hypericum	*(Hypericum triquetrifolium*	Species of Concern	Species of Concern	General Biosecurity Duty.	--
Yellow water lily	*Nymphaea spp.*	Containment	Containment	General Biosecurity Duty. This plant is not to be sold in all or parts of NSW.	41

What Category is My Weed?

Aquatic	Plants that have adapted to live on, under or near fresh water or salt water environments.
Grass	Plants that grow in tufts and consist of long, narrow leaves.
Herbaceous	Plants that have non-woody stems, tend to be low growing and not visually present during winter.
Woody	Plants that are usually trees or shrubs and whose stems and large branches and roots are usually covered with a layer of wood or bark.

The WeedWise website has a useful tool to help identify plants by their charecteristics. https://weeds.dpi.nsw.gov.au/Home/Identify

Definitions

Awn	A stiff bristle, especially one of those growing from the seedhead or flower of many grasses.
Branchlet	A small branch emerging from the main branch of a plant.
Catkin	A slim, cylindrical flower cluster or flowerhead that tends to be drooping.
Cluster	A group of plants or plant parts positioned close together.
Corm	A corm, bulbo-tuber, or bulbotuber is a short, vertical, enlarged underground plant stem that serves as a storage organ that some plants use to survive winter or other adverse conditions such as summer, drought and heat.
Daughter plant	A plant that forms from a parent plant without sexual reproduction, i.e. clones.
Floret	One of the small flowers making up a cluster or flowerhead.
Fragmentation	A form of reproduction in which a plant splits into fragments (pieces).
Gland	A group of one or more cells whose main function is to secrete a specific chemical substance, usually appearing as a bump on the leaf or stem of a plant.
Glume	A leaf-like structure below the seedheads or flowerheads of grasses.
Leaflet	One of the small leaf-like structures, making up a leaf. Although it resembles an entire leaf, it has no stem.
Lobe	A distinct, partially rounded segment of a leaf edge that is separated by indents.
Mat (Dense mats)	Closely tangled together in a dense mass.
Node	The part of a plant stem from which one or more leaves emerge, often forming a slight swelling.
Nutlet	A small nut; a small, nut-like fruit or seed.
Rosette	A radial arrangement of horizontally spreading leaves at the base of a low-growing plant.
Seedhead	A cluster of flowers in seed, this term tends to be used for grassy plants.
Tendrils	A slender thread-like appendage of a climbing plant, often growing in a spiral form, that stretches out and twines round any suitable support.
Tubers	Tubers are enlarged structures in some plant species used as storage organs for nutrients.
Vegetatively	Plants that can produce genetically identical offspring (clones) of themselves, which then develop into independent plants.
'Vegetable fault'	'Vegetable fault' refers to any particles of plant material present within greasy wool. When present, vegetable fault incurs a price penalty in the marketplace.

NSW WeedWise

WeedWise is provided online or as a free smartphone app through the app stores.
Like the web version, the smartphone app provides key information to help users reduce the impact of over 300 weeds in New South Wales. The app provides information on impacts, toxicity, location, how it spreads, plant description and control methods.

WeedWise can be found at https://weeds.dpi.nsw.gov.au/ or through your Apple App store or Google Play store.

General Information

Links to Murray and Riverina Regional Weed Strategic Management plans

https://riverina.lls.nsw.gov.au/__data/assets/pdf_file/0007/722446/RIVERINA_RSWMP-26-June_RLLS_FINAL.pdf

https://murray.lls.nsw.gov.au/__data/assets/pdf_file/0004/722632/20170626-Murray-Regional-Weed-Mgmt-Plan_for-web.pdf

Other Field Guides Worth Checking Out

https://www.agric.wa.gov.au/sites/gateway/files/Opuntiod%20cacti%20field%20identification%20guide.pdf
Field Identification Guide - Austrocylindropuntia, Cylindropuntia and Opuntia species

https://shop.regional.nsw.gov.au/products/grasses-of-nsw-slopes-b963
Grasses of the NSW slopes and adjacent plains

https://www.publish.csiro.au/book/6772/
Plant of Western New South Wales

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0007/329308/041209-DPI-RWW-PLANT-GUIDE.pdf
Recognising Water Weeds - Plant Identification Guide

https://www.publish.csiro.au/book/7656/
Weeds of the South East - An Identification Guide for Australia

Help Stop the Spread!

Take care when purchasing plants (including online) to avoid species that are a listed priority weed for NSW and your region, including Weeds of National Significance (WoNs). Every person has a responsibility to prevent, minimise or eliminate the biosecurity risk from weeds (as far as is reasonably practicable).

Information on Weeds of National Significance can be found at:
https://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html

Information on plants that are not to be sold in all or parts of NSW can be found at:
https://weeds.dpi.nsw.gov.au/WeedListPublics/CategoryResults?showImages=True&categoryId=12&pageTitle=Plants%20not%20to%20be%20sold%20in%20all%20or%20parts%20of%20NSW

Weed Hygiene

The smallest of seeds can be carried far and wide by people, animals, vehicles, machinery and equipment, including such things as boats, kayaks and bikes, potentially spreading weeds to farms, roadsides, waterways, properties and bushland across the Murray and Riverina. Although preventing the spread of weeds can be difficult, it is the cheapest and most effective method of weed control. If everyone plays their part by practicing good weed hygiene it can help prevent the spread of weeds.

Weeds officer inspecting the under carriage of a vehicle for weed seeds.

If you see a red guide post along a roadside, this is indicating the presence of a priority weed species. Avoid pulling over or moving machinery or stock through these areas.

Weed Hygiene

Simple things you can do to prevent weed spread include:

STOP

Avoid moving through infestations

- Be aware of weed infestations, stay on designated tracks and avoid pulling over in Red Guide Posted areas on roadsides as these mark locations where priority weeds are located.
- Avoid walking, driving, boating or riding in weed infested areas especially in wet & dewy conditions.
- Avoid operating machinery in infestations during peak weed seed production.
- Avoid moving stock from weed infested areas into clean areas during peak weed seed production.

INSPECT

Inspect and clean clothing and equipment

- Inspect and clean vehicles, machinery and equipment suspected of carrying weed seed before moving on from one site to another.
- On waterways inspect and clean boats, boat trailers, and equipment before entering and when leaving the waterway.
- Inspect and clean clothing and footwear before stepping into vehicles or entering bushland reserves.
- Inspect and clean vehicles before entering a property and when you leave.

PROTECT

Report suspicious plants

- Work in clean areas (or areas with the least amount of infestation) first and work towards infested or high-density areas.
- Keep high risk sites and pathways free of weeds.
- Maintain buffer zones and encourage *'come clean, go clean'.*

Weed Hygiene

Examples of practising good weed hygiene:

Using a weed hygiene station to properly clean the bottom and sides of your footwear.


Thoroughly hose vehicles and machinery.


Brush or hose any hard to reach areas.


Brush down your clothing.


Thoroughly brush down all of your equipment.

Alligator weed *(Alternanthera philoxeroides)*

Eradication WoNS

What does it look like?

Leaves	Flowers	Stems/Roots
- Green in colour. - Shiny, spear-shaped. - Leaves attach directly to the stem. - Occur in opposite pairs along the stems. - 2–7 cm long and 1–2 cm wide.	- White in colour. - Small and papery. - Occur in clusters on the tips of the stems. - 8–10 mm in diameter. - Flowers November to March.	**Stems:** - Red-green in colour when young, becoming dark green with maturity. - Hollow to aid in floating. - Grow up to 10 m long. **Roots:** - Extensive underground root system. - Relatively fine and short in water but become thicker in soil. - Able to penetrate to depths of over 50 cm.

How does this weed affect you?

- Forms dense mats of stems that hinder light penetration, and choke waterways.
- Outcompetes native vegetation and is a threat to biodiversity.
- Eliminates small crops and turf farms.
- Blocks and damages pumps and other water infrastructure, restricting water access.

How does it spread?

- Does not reproduce by seed, instead it is capable of growing from any plant fragments.
- Dispersed through excavation, boating and sand dredging on waterbodies.
- It can also disperse through movement of soil or turf and spread on machinery and stock hooves.

Control

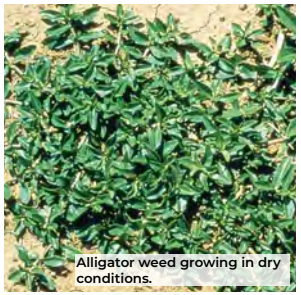
Physical removal (must be very careful to avoid fragmentation), biological and chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Hollow stem close-up.


Flowers clustered at the end of a stem.


Alligator weed will grow in water and on land.


Dense mat of alligator weed.


Alligator weed growing in dry conditions.

Cabomba *(Cabomba caroliniana)*

Asset Protection **WoNS**

Common Name(s): Carolina fanwort, common cabomba, fish grass

What does it look like?

Leaves	Flowers	Stems/Roots
- Emerald green in colour. **Floating:** - Narrow to diamond shaped. - Few or not present, - Alternate on the flower stems. - Not divided into strands. - Up to 2 cm long. **Submerged:** - Fan-shaped. - Covered in a sticky mucous. - Divided into many strands giving them a 'feather' look. - Occur oppositely along the stem.	- Can be white, pale yellow or pale purple. - Has yellow centres. - 6 petals per flower. - 2 cm in diameter. - Raised 1–4 cm above the water. - Submerged at night.	**Stems:** - Green in colour, with white or reddish hairs. - Completely submerged except for flowers and occasional floating leaves. - Usually grows to 5 m long, but can grow to 10 m long. **Roots:** - Attached to the bottom of the water body.

How does this weed affect you?

- Chokes water bodies and degrades water quality.
- Taints drinking water, increasing treatment and storage costs.
- Entangles swimmers.
- Blocks pumps.
- Makes water unsuitable for fish/aquatic animals.
- Outcompetes native water plants.
- Makes the water foul smelling and stagnant.

Cabomba leaf structure.

How does it spread?

- Cabomba reproduces vegetatively.
- Can disperse via boats/boat trailers.
- Floats on water.

Similar looking plants

Pink cabomba *(Cabomba furcata)*, which differs by having pink leaves and stems and purple flowers with yellow centres. Pink cabomba has no weed management or control measures in the Murray or Riverina regions.

Control

Physical removal (must be very careful to avoid fragmentation), biological and chemical control.

Cabomba's fan-shaped leaf structure.

Close-up of a cabomba flower.

Cabomba plant in a fish tank.

Eurasian water milfoil *(Myriophyllum spicatum)*

Prevention **PM**

Common Name(s): Spike water-milfoil

What does it look like?

Leaves	Flowers	Stems/Roots
- Olive-green in colour. - Heavily divided giving it a feather-like appearance. - Usually submerged. - Arranged around the stem in groups of four. - Less than 4 cm long. - Have 5–24 pairs of divisions (usually more than 12).	- Pinkish in colour. - Small. - Four petals per flower - Occur in groups of 4 around the stem. - Flowers lie parallel to the water surface once fruit are developed. - Held above the water in an erect spike up to 8 cm tall.	- Reddish-brown to whitish-pink in colour. - Hairless and slender (5 mm in diameter). - Extensively branched near the surface to form a dense mat, up to 7 m long. - Stems are rooted at the base and grow towards the surface. - Can be up to 10 m deep.

How does this weed affect you?

- Forms a dense mat that shades out and replaces all other aquatic plants, impacting on native flora and fauna.
- Mat also interferes with other uses of water bodies such as recreation and irrigation.

Flower spike close-up.

How does it spread?

- Reproduces vegetatively.
- Mainly dispersed through:
  - Water movement and human activities intensify fragmentation.
  - Water currents spread fragments over long distances.
  - Fragments are spread between water bodies by boating and fishing.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Eurasion stems and leaves forming a dense mat.

The leaves are feather-like.

Frogbit *(Limnobium spp.)*

Prevention PM

Common Name(s): Amazon frogbit, smooth frogbit

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Bright green in colour. - Glossy on top. - Up to 4 cm across. **Young:** - Round. - Spongy on the underside. - Float laying flat. **Mature:** - More oval shaped. - Lack spongy underside. - Can extend up to 50 cm above the water.	- White-greenish or yellowish in colour. - Up to 13 mm in diameter.	**Fruits:** - Green in colour. - Berry-like capsules that contain up to 100 seeds. - Fruits form under water. - 4-13 mm long, and 2-5 mm in diameter. **Seeds:** - Slightly flattened. - Hairy. - 1 mm long.	**Short Stems:** - Mostly branched. - Have leaves. **Long Stems:** - Unbranched. - No leaves. - Up to 50 cm long. **Roots:** - Hairy. - Floating plant. - Grow quickly downwards from the base of the leaves. - Major roots are 2 mm thick and up to 20 cm long. - Minor roots branch off major roots.

How does this weed affect you?

- Forms large dense mats across water surfaces reducing light, food and shelter for aquatic fauna.
- Prevents native water plants from growing.
- Can block waterways and irrigation channels.

How does it spread?

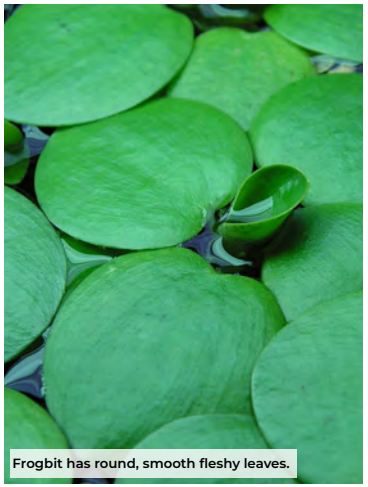
- Illegal dumping of aquarium or pond water.
- Tiny seedlings or plant fragments can be dispersed by water flow or wind and can attach to birds, watercrafts or equipment.

Similar looking plants

Spongeplant *(Limnobium spongia)* but distinguished from Frogbit by having wider leaves and a circle of red spongy cells on the underside.
See https://weeds.dpi.nsw.gov.au/Weeds/Spongeplant for distuishing features.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Frogbit has round, smooth fleshy leaves.


Infestation of frogbit.


Frogbit stems and flower.

Hydrocotyl *(Hydrocotyle ranunculoides)*

Prevention

Common Name(s): Water pennywort, floating pennywort

What does it look like?

Leaves	Flowers	Fruits	Stems/Roots
- Green in colour. - Circular to kidney-shaped. - 3–7 lobes with shallow-toothed edges. - Alternate along the stems. - Up to 10 cm wide.	- Green, yellow or white in colour. - Small. - 5 petals per flower (2–3 mm in diameter). - Occur below the leaf canopy in clusters of 5–10. - Flowering occurs from spring-autumn.	- Round. - Split into segments. - 1–3 mm in diameter.	**Stems:** - 2-25 cm long. - Attach to the centre base of the leaf. **Roots:** - Tangled mass of roots and stems can sink up to 50 cm into water.

How does this weed affect you?

- Rapidly forms dense mats in stationary or slow-flowing freshwater that replace native vegetation.
- Reduces habitat for native fauna.

How does it spread?

- Mainly dispersed through fragmentation of the weed.
- Can also disperse via seed in flowing water.

Similar looking plants

Water pennywort can be mistaken for Largeleaf pennywort(*Hydrocotyl bonariensis)*. Largeleaf pennywort has much larger leaves and is very common and widespread in Greater Sydney - particularly in lawns. Largeleaf pennywort has no weed management or control measures in the Murray or Riverina regions.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Hydrocotyl has long stolons.


Roots and leaf stems grow from the nodes.


Dense Hydrocotyl.


Leaf stem attaches near centre of the leaf.


Hydrocotyl leaves.

Aquatic Weeds

Eradication WoNS

Hymenachne *(Hymenachne amplexicaulis)*

Common Name(s): Olive hymenachne

What does it look like?

Leaves	Flowers	Stems
- Bright green in colour. - Light-coloured veins. - Base of the leaf blade is slightly heart-shaped and clasped around the stem. - Hairy edges. - 20–35 cm long and 2–3 cm wide.	- Greenish brown. - Occurs in a spike-like and cylindrical cluster. - About 8 mm wide and up to 40 cm long.	- White inside, green outside. - Hairless. - On land, erect stems can stand up to 1.5 m tall.

How does this weed affect you?

- Forms dense clusters in freshwater ecosystems that replace native plants and reduce biodiveristy.
- Threatens native fish populations and wetland habitats.

How does it spread?

- Each flowerhead can produce over 4,000 viable seeds.
- Seeds disperse through contaminated agricultural produce, annual flooding events, waterbirds and the fur or hooves of animals.
- Broken stem fragments can also be dispersed to new locations by flood waters.

Similar looking plants

Native hymenachne *(H. acutigluma)* is a tropical species that grows in northern Australia and has no weed management or control measures in the Murray or Riverina regions.

Control

Chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Hymenachne threatens wetland areas.


Hymenachne leaves clasp around the stem.


Young hymenachne plants.


Hymenachne can produce roots from the nodes.


Hymenachne leaf sheath.


Hymenachne flower spikes.

Prevention

Kidney-leaf mud plantain *(Heteranthera renifomis)*

Common Name(s): Mud plantain, heterenthera

What does it look like?

Leaves	Flowers	Fruits/Seeds
- Bright green in colour. - Glossy. - Kidney-shaped. - Narrow when young, becoming wider with maturity. - Spongy. - Alternate along the stem. - Floating or above the water. - Sometimes there is a cluster of stalkless leaves at the base of the stem. - Up to 5 cm wide. - Usually on a stem 2–13 cm long.	- White-mauve or pale-blue in colour. - 6 petals per flower. - Occur in clusters of 2–10. - Clusters occur on a 1-9 cm long spike. - Open in the morning and wilt by early afternoon. - Flowers summer to autumn.	**Fruits:** - Small capsules. - Contain 8-14 seeds per fruit. - 0.5-1.0 mm long. **Seeds:** - Winged. - 0.5–0.9 mm long and 0.3–0.5 mm wide.

How does this weed affect you?

- Forms dense mats that choke dams, drains and water supply channels and reduce water flow.
- Prevents native water plants from growing.
- Reduces food for aquatic fauna.
- Can significantly reduce rice crop yields.

How does it spread?

- Kidney-leaf mud plantain reproduces by seed and vegetatively.
- Winged seeds disperse via wind and water.
- Stem fragments can form new plants, these fragments can move with water currents.
- Seeds and fragments may also be spread in mud that has stuck to birds and vehicles.

Control

Chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*

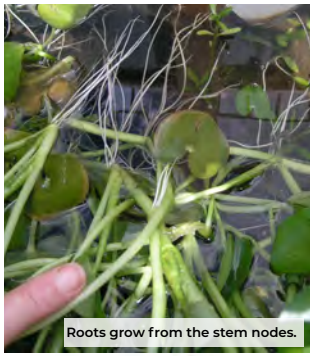

Kidney-leaf flowers.


Glossy kidney-shaped leaves.


The leaves can float.


Infestation in a drain.


Seedlings have narrow leaves.


Roots grow from the stem nodes.

Aquatic Weeds

Prevention PM

Lagarosiphon *(Lagarosiphon major)*

Common Name(s): Oxygen weed, curly water weed

What does it look like?

Leaves	Flowers	Stems
- Green in colour. - Finely toothed edges. - Tapered tips that curve downwards towards the stem. - When water is less alkaline, leaves are straight. - Leaves are more closely spaced at the top of the stem. - 5-20 mm long and 2-3 mm wide.	- Clear-white to pale pink in colour. - Very thin white stem. - 3 petals per flower. - 3 mm wide.	- Green in colour. - J-shaped. - Free-floating and able to reach the surface. - Sparsely branched. - Grow from the bottom of a water body to the surface. - 3-5 mm in diameter and more than 5 m in length.

How does this weed affect you?

- Forms dense mats several metres thick at or just below the water surface that reduces water quality, light penetration and oxygen levels.
- Replaces native vegetation.
- Is a threat to biodiversity.
- Blocks and damages pumps and other water infrastructure, reducing the potential for recreational use by restricting water access.


Close-up of lagarosiphon.

How does it spread?

- Mainly dispersed through fragmentation of the weed:
  - Water movement and human activities intesify fragmentation.
  - Water currents spread fragments over long distances.
  - Fragments are spread between water bodies by boating and fishing.


Lagarosiphon generally have tapered tips curving downwards towards the stem.

Similar looking plants

It is important to accurately identify Lagarosiphon, it can be confused with other aquatic weeds.
See https://weeds.dpi.nsw.gov.au/Weeds/Lagarosiphon for distinguishing features.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Infestation of lagarosiphon.


Control of lagarosiphon is ongoing because it can grow back from any remaining fragments.

Aquatic Weeds

Species of Concern

Long-leaf willow primrose *(Ludwigia longifolia)*

Common Name(s): Primrose willow

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green with red edges. - Narrow and long. - Alternate up the stem. - Leaves reduce in size up the stem. - Up to 35 cm long and 2.5 cm wide.	- Yellow in colour. - Occur in solitary. - Petals are between 2–2.5 cm long. - Found in the intersection between upper leaves. - Flowers summer to winter.	**Fruits:** - Oblong to slightly-cubed in shape. - Each fruit contains numerous tiny seeds that are brown - yellow in colour. - 1–3.5 cm long and 0.4–0.8 cm wide.	- Red in colour. - Narrow. - Winged. - Usually branch towards the top of the plant.

How does this weed affect you?

- Forms dense clusters that obstruct water flow and increase sedimentation in waterways.
- Reduces habitat for native fauna.
- Reduces biodiveristy.


Primrose willow flowers.

How does it spread?

- Long-leaf willow primrose reproduces by seed and vegetatively.
- Seeds and plant fragments are dispersed by water, wind, or human activity.

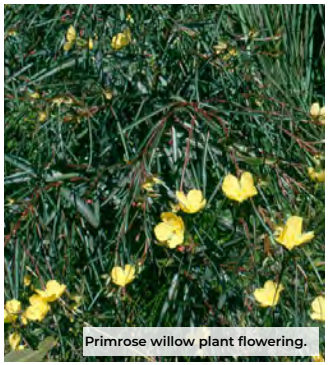

Primrose willow seeds and seedlings.

Control

Physical removal and chemical control (must be very careful to avoid fragmentation). Planting riparian vegetation to outcompete may also be used as a preventative measure.


Primrose willow fruit.


Primrose willow infestation in a wetland.


Primrose willow plant flowering.

Aquatic Weeds

Red rice *(Oryza rufipogon)*

Species of Concern *(MLLS)*

What does it look like?

Leaves	Flowers/Seedheads	Stems
- Deep green in colour. - Narrow and linear leaf blades. - 8-60 cm long.	- Green in colour. - Downward facing flowers im the form of seed heads. - With obscured or no small leaves at the base of the seed heads.	- Tufted in appearance. - Grows up to 1.5 m tall.

How does this weed affect you?

- Impacts on agriculture by contaminating and reducing the commercial value of harvest.

How does it spread?

- Seeds disperse via water and soil movement.
- Seeds can also be dispersed further by birds or through contamination of equipment and exchange of commercial rice seeds.

Similar looking plants

Red rice is hard to distinguish from the desired commercial rice growing in the field and can also easily hybridise with commercial rice. This makes identification even more problematic. Red rice is best identified when in flower and producing seed.

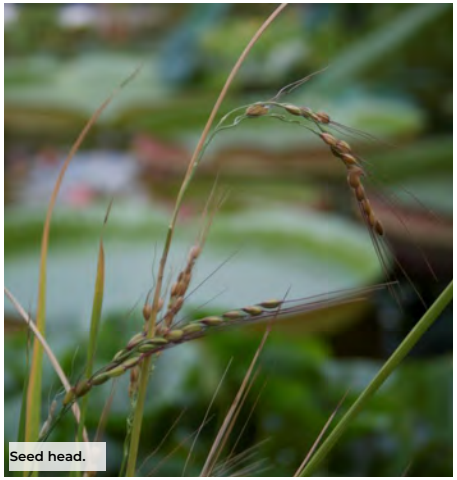
Control

Chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Red rice seeds.


Flowering plant.


Seed head.


Seed head.

Sagittaria *(Sagittaria platyphylla)*

Containment *(MLLS)* **WoNS**

Eradication *(RLLS)*

Common Name(s): Arrowhead, slender arrowhead

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
Surfaced leaves: - Green in colour. - Oval-shaped with a pointed tip. - 25 cm long and 10 cm wide. **Submerged leaves:** - Long, narrow and strap-like. - 50 cm long.	- Appear in spirals or coils. - Appear below leaves during spring-autumn. **Male flowers:** - White petals with a yellow centre. - Appear in groups of 3. - 3 cm wide. **Female flowers:** - Look like flattened green berries. - No petals.	**Fruits:** - Consist of clusters of tiny 1 seeded fruitlets. - The cluster is 5-15 mm in diamater. **Seeds:** - Oblong-shape. - Flat. - Sometimes grow with 1-3 narrow wings.	- Green in colour. - Triangular in cross-section. - Up to 80 cm long.

How does this weed affect you?

- Forms dense clusters that restrict water flow and alter the flow regime of catchments and waterways.
- Threatens aquatic biodiversity and stream health.
- Impacts recreational water activities.

How does it spread?

- Sagittaria reproduces by seed and vegetatively.
- Its creeping underground stems can pop up in different locations.
- Seed and plant fragments can also spread through flowing water.

Similar looking plants

It is important to accurately identify Sagittaria, it can be confused with other aquatic vegetation.
See https://weeds.dpi.nsw.gov.au/Weeds/Sagittaria for distinguishing features.

Control

Physical removal (must be very careful to avoid fragmentation).


Flowers and stems.


Sagittaria plants.


Emergent Sagittaria plants.


Narrow-leaved emergent Sagittaria.

Aquatic Weeds

Salvinia *(Salvinia molesta)*

Prevention *(MLLS)* **WoNS**
Eradication *(RLLS)*

Common Name(s): Giant salvinia

What does it look like?

Leaves	Stems/Roots
- Light green in colour (or yellowish in low nutrient water). - Round/oval. - Waxy hairs on the upper surface. - Grow in opposite pairs. **Leaves have 3 growth stages:** - **Primary:** Leaves are less than 15 mm wide and float flat on the water. - **Secondary:** 20-50 mm wide and slightly cupped with only the lower surface of the leaf in the water. - **Tertiary:** Up to 60 mm wide, tightly folded and leaves are densely packed together.	**Stems:** - Green in colour. - Slender and covered with fine hairs. - Submerged. - Branches that develop into roots. **Roots:** - Hairy. - Trailing from stem. - Up to 25 cm long.

How does this weed affect you?

- Forms dense mats that:
  - Reduce food and habitat for aquatic flora and fauna.
  - Prevent native plants from growing.
  - Create habitat for mosquitoes to breed.
  - Hinder water infrastructure, recreation activities and transport.


Salvinia plants.


Salvinia forming dense mats.

How does it spread?

- Plant fragments can disperse the weed to new locations.
- Buds at stem joints can form new plants.
- Can be dispersed by aquatic vehicles, water birds, turtles or cattle.
- Can also be dispersed through water currents and wind.

Control

Water management, physical removal, biological and chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Young Salvinia.


Mature Salvinia.


Floating Salvinia.

Senegal tea plant *(Gymnocoronis spilanthoides)*

Prevention **WoNS**

Common Name(s): Temple plant, spade leaf plant

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Dark green in colour. - Tapered at the tip. - Serrated, slightly wavy edges. - Occur in opposite pairs along the stems. - 5–20 cm long and 2.5–5 cm wide.	- White in colour. - Pom-pom-like. - Occur in groups at the ends of stems. - Fragrant. - 1.5–2 cm in diameter.	- Yellow-brown in colour. - Ribbed. - 5 mm in diameter.	**Stems:** - Pale green in colour. - Ribbed. - Erect when young, drooping with maturity. - Forms dense clusters or mats. - 1–1.5 m long and 5 mm-2 cm in diameter. **Roots:** - Fine and fibrous.

How does this weed affect you?

- Forms dense erect clusters, or mats of stems on the banks of water bodies.
- This weed impedes flow, ecosystem function, navigation, and recreational activities.
- Degrades wetlands and water bodies by competing with native vegetation.
- Reduces food and shelter for native fauna.
- A threat to biodiversity.


Senegal tea plant flowers.


Leaves showing serrated edges.

How does it spread?

- Mainly dispersed through fragmentation of the weed:
  - Water movement and human activities intesify fragmentation.
  - Water currents spread fragments over long distances.
  - Fragments are spread between water bodies by boating and fishing.
- Seeds germinate in shallow water and most fall close to the parent plant.

Control

Physical removal and chemical control.


Opposite leaves that have serrated edges.


Infestation of Senegal tea plant.


Fine fibrous roots form at the nodes.

Aquatic Weeds

Prevention

Water caltrop *(Trapa species)*

Common Name(s): Water chestnut

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Green in colour. **Submerged:** - Feather-like. - Arranged in spirals around the stem. **Floating:** - Oval, triangle or diamond-shaped with saw-toothed edges. - Covered in fine, short hairs underneath. - Glossy on top. - In circular clusters with leaves radiating out. - 2–3 cm long.	- White in colour. - 4 petals per flower. - 8 mm long. - Grows above the water surface in early summer.	**Fruits:** - Olive-brown in colour. - Hard, woody nut with sharp spines. - Under the floating leaves. - Each fruit contains 1 seed. - About 3 cm wide.	**Stems:** - Submerged. - Anchored into the mud by very fine roots. - Long and unbranched reaching 3.6–4.5 m in length. **Roots:** - Often mistaken for feather-like leaves. - Up to 8 cm long.

How does this weed affect you?

- Has sharp spines that can hurt humans and animals.
- Reduces food and habitat for aquatic fauna.
- Can form dense mats across wide areas of water.
- Outcompetes native plants.
- Blocks access to water.
- Prevents recreational activities such as swimming and fishing.

How does it spread?

- Usually introduced to a new area by intentional planting by humans.
- Seeds can be dispersed by birds, animals and through water.
- Seeds remain viable for up to 12 years.
- Stem fragments can break and float away to form new plants.
- Fruit can also hook onto equipment like nets, fishing traps, boats and other vehicles that go near the water.

Similar looking plants

The Mosaic flower *(Ludwigia sedioides)*, which is sometimes grown in ponds and water features, has yellow flowers that are about 3 cm wide. The Mosaic flower has no weed management or control measures in the Murray or Riverina regions.

Control

Physical removal and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Fruit is a wody or bony nut with spines.

Surface leaves of Water caltrop.

Water caltrop plant with fruits.

Eradication WoNS

Water hyacinth *(Eichhornia crassipes)*

Common Name(s): Lilac devil, pickerelweed, water orchid

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Bright green, sometimes rusty yellow on edges. - Glossy, smooth and hairless. - Obvious veins. **Open water:** - Round, up to 30 cm in diameter. - Curved upwards with wavy edges. - On hollow, vase-shaped floating stems that are up to 50 cm long. **Dense crowds:** - More narrow and upright. - Up to 60 cm long (including the stem).	- Light bluish-purple to dark blue in colour. - Upper petal is darker purple with yellow mark in centre. - Funnel-shaped. - On upright stems with between 3 and 35 (but usually 8) flowers on each stem. - 6 petals per flower. - 4-7 cm long and 4-6 cm wide. - Flowers from mid to late summer. - Flowers only open for 2 days before withering.	**Fruits:** - Capsules are about 10-15 mm long. - Mature under water. - Contain up to 300 seeds per fruit. **Seeds:** - Egg-shaped with ridges from end to end. - 1 to 1.5 mm long.	**Stems:** **Vertical:** - Erect. - Up to 60 cm long. - Have flowers. **Horizontal:** - No flowers. - Produce daughter plants. - Up to 10 cm long. **Roots:** - Purple-black in colour. - Anchored to ground in shallow water. - Fibrous. - Feather-like. - Up to 1 m long.

How does this weed affect you?

- Forms dense mats that smother the surface of waterways and doubles its mass every 5 days.
- Reduces water level and quality.
- Threatens the survival of aquatic flora and fauna.
- Severely impacts infrastructure and agriculture when in masses.

How does it spread?

- Seeds are released from fruit under water.
- Seeds are viable for up to 20 years.
- Each plant produces 2-4 daughter plants.
- Daughter plants, seeds and plant fragments can disperse by water flow, fauna, machinery and footwear.
- Intentional dumping into water ways and moving contaminated equipment and vehicles.

Similar looking plants

Anchored water hyacinth *(Eichhornia azurea)* is closely related to the Water hyacinth (See next profile). The Anchored water hyacinth does not have thick, vase-shaped leaf stems. The Anchored water hyacinth's flower petals have serrated edges.

Control

Physical removal, biological and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Flowers are bluish-purple with a yellow spot on upper petal.

Infestations can cover entire water bodies.

Water hyacinth plant flowering - Philip Blackmore.

Aquatic Weeds

Water hyacinth - Anchored *(Eichhornia azurea)*

Prevention

Common Name(s): Rooted water-hyacinth, saw-petal water hyacinth

What does it look like?

Leaves	Flowers	Seeds	Stems
- Green in colour - Rounded in shape. - 5–16 cm long and 2–16 cm wide. **Shaded/submerged leaves:** - Oval-shaped. - 6 - 20 cm long and 1 cm wide.	- Mostly white or lavender blue with deep purple centres. - Uppermost petal has a distinct yellow spot. - Funnel-shaped. - On spikes with several flowers along a hairy stem. - 6 serrated petals per flower that are about 1–3 cm long.	- Small. - 1–2 mm long.	**Submerged:** - Smooth and branched. **Surfaced:** - Hairy. - Erect and stand 8–12 cm above the water.

How does this weed affect you?

- Forms dense mats that obstruct irrigation and navigation of water bodies.
- Has detrimental impacts on environmental, aesthetic and recreational values.
- Creates habitat for mosquitoes to breed.
- Increases water loss through transpiration.

How does it spread?

- Stem fragments can break off and float away to form new plants.
- Seeds and stem fragments can be carried in water, mud, on vehicles and by birds.
- The seeds and stem fragments can be further dispersed by dumping of aquarium or graden waste.

Similar looking plants

The Anchored water hyacinth is closely related to the Water hyacinth *(Eichhornia crassipes)* (See previous profile). Anchored water hyacinth does not have thick, vase-shaped leaf stems. The Anchored water hyacinth's flower petals have serrated edges.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Flowers are deep purple with a yellow spot on upper petal.


Anchored water hyacinth plant.


Infestation of Anchored water hyancinth.


Emergent leaves are round.

Water lettuce *(Pistia stratiotes)*

Prevention

Common Name(s): Nile cabbage, water cabbage

What does it look like?

Leaves	Flowers	Fruits/Seeds	Roots
- Pale green in colour. - Wedged-shaped. - Ribbed and velvety looking. - Have small thick hairs. - Clustered. - Spongy to touch.	- Whitish-green in colour. - Hidden in the centre of the plant. - Up to 1.5 cm long. - Present all year round.	**Fruits:** - Green berries. - Oval shaped. - 4-15 seeds per berry. - 5-10 mm in diameter. **Seeds:** - Green when immature. - Brown when mature. - Oblong-shaped. - About 2 mm long.	- Cream-brown in colour. - Unbranched. - Feathery. - Free floating beneath leaves. - Up to 60 cm long.

How does this weed affect you?

- Forms dense mats, blocking waterways.
- Has detrimental impacts on agricultural, environmental and recreational values.
- Threatens the survival of aquatic flora and fauna.
- Creates habitat for mosquitoes to breed.

How does it spread?

- Seeds disperse through water currents to new areas.
- Daughter plants and plant fragments are dispersed on fishing equipment and vehicles.
- Plant fragments and seeds can be dispersed from intentional dumping.

Control

Physical removal, biological and chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Water lettuce leaves have a velvety appearance.

Infestations can cover entire water bodies.


Water lettuce forms dense mats over the water surface.


Water lettuce plants resemble open heads of lettuce.


Small whitish-green flowers in the centre of the plant.

Water poppy *(Hydrocleys nymphoides)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Deep green in colour. - Heart-shaped to round. - Shiny. - Float on the waters surface or emerge above. - Up to 12 cm across.	- Yellow with a brownish-to-purple centre. - Poppy-like. - 3 petals per flower. - Found above the waters surface. - Flowers throughout summer.	- Horseshoe-shaped. - Small.	- Deep green in colour. - Can grow up to several metres long.

How does this weed affect you?

- Forms dense mats that choke waterways.
- Threatens the survival of aquatic flora and fauna.
- Decreases the recreational value of waterways.

How does it spread?

- Can spread vegetatively and its creeping underground stems that can pop up in different locations.

Control

If you see this plant, report it to your local council for advice on the best control strategies for your situation.


Water poppy flowers.


Water poppy stems and leaves - Mel Wilkerson


Water poppy plant with roots - Mel Wilkerson


Water poppy flower - Mel Wilkerson


Water poppy infestation.

Water soldier *(Stratiotes aloides)*

Common Name(s): Water aloe, water pineapple

What does it look like?

Leaves	Flowers	Fruits/Seeds	Roots
- Entirely submerged plant, except in summer when it rises to flower. - Resembles an aloe plant. - Very narrowly triangular or sword-shaped. **Submerged leaves:** - Pale green to reddish in colour. - Thin and brittle. - Up to 60 cm long and 1 cm wide. **Surfaced leaves:** - Dark green in colour. - Thick and rigid. - Have well-developed spines along the edges. - Up to 40 cm long and 7-25 mm wide.	- White-pinkish in colour. - 3 petals per flower. - Grow on the top 30 cm of the stem. - Foul smelling. - Up to 30 mm long.	- Fruit is a berry-like capsule. - Flask-shaped. - Fleshy. - Each fruit contains 24 seeds. - 2-34 mm long.	- Hang freely when surfaced. - Loosely anchored in the mud when submerged.

How does this weed affect you?

- Forms dense clusters that exclude native wetland plants and destroy aquatic habitats.
- Foul smell reducing attraction for recreational activities.

How does it spread?

- Stem fragments can break and float away to form new plants.
- Seeds and stem fragments can be carried through the water.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Water soldier flower shoot.


Water soldier, single emergent plant.


Dense cluster of Water soldier in a pond.

Aquatic Weeds

Yellow burrhead *(Limnocharis flava)*

Common Name(s): Limnocharis

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Green in colour. - Narrow when young, widening and becoming oval-shaped with maturity. - Tapered tips. - Distinct parallel veins run along each leaf. - 5-30 cm long and 4-25 cm wide.	- Pale yellow in colour. - Cup-shaped. - 3 petals per flower. - Occur in clusters of 5-15 at the tip of the stems. - Flowers year round.	**Fruits:** - Greenish-brown in colour. - Round. - Made up of 12-18 crescent-shaped segments. - Each fruit contains up to 1,000 seeds. - Up to 2 cm in diameter. **Seeds:** - Dark brown in colour. - Horse-shoe shaped with obvious ridges. - 1.5 mm long.	**Stems:** - Green in colour. - Grow in clumps. - Tringular and fleshy. - Up to 75 cm long. - Grows up to 1 m above the water surface. **Roots:** - Anchored to the soil, with a creeping horizintal root system.

How does this weed affect you?

- Yellow burrhead can alter the flow of water in channels and drains.
- It can cause silt to build up and block water flow.
- Forms dense clusters that choke dams and irrigation canals.

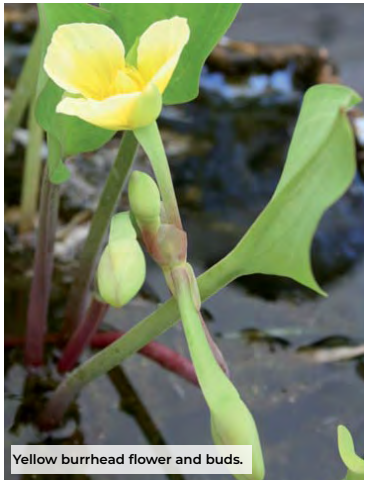
How does it spread?

- Yellow burrhead reproduces by seed and vegetatively.
- The bouyant seeds can float to new locations in moving water.
- Seeds may also disperse by contaminated mud, attaching to vehicles, footwear, water birds and other animals.
- Plant fragments can disperse the plant via water or dumped garden and aquarium waste.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Plantlet developing on an old flowering stem.


Yellow burrhead flower and buds.


Flower close-up.


Yellow burrhead plants.

Yellow water lily *(Nymphaea mexicana)*

Common Name(s): Mexican water lily, banana lily

What does it look like?

Leaves	Flowers	Stems/Roots
- Upper surface is green in colour, gaining brown blotches with maturity. - Underside is mainly purple in colour. - Large, flat and round to heart-shaped. - Waxy. - Float on the surface of the water.	- Light-yellow in colour. - Star-shaped. - Petals are deeply veined. - Held above the water on a stem. - Open during the day and close at night. - Flowers produce seeds that are 2-3 mm long.	**Stems:** - Fleshy. - Banana-shaped tubers grow on the stem. **Roots:** - Vertical and horizontal underwater stems.

How does this weed affect you?

- Forms dense mats that choke waterways.
- Outcompetes and shades out other native plants.
- Prevents recreational activities such as swimming, boating and fishing.


Flowering Yellow water lily.

How does it spread?

- The Yellow water lily reproduces by seed and vegetatively.
- Seeds, plant and root fragments disperse via water, boats, fishing gear, machinery and intentional planting.

Control

Physical removal and chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Yellow water lily infestation - Mel Wilkerson


Yellow water lily infestation.


Yellow water lily roots - Mel Wilkerson


Leaves of Yellow water lily - Mel Wilkerson


Yellow water lily flower close-up - Mel Wilkerson

Aquatic Weeds

African lovegrass *(Eragrostis curvula)*

Species of Concern *(RLLS)* WoNS

Common Name(s): Weeping lovegrass

What does it look like?

Leaves	Flowers/Seedheads	Seeds	Stems/Roots
- Dark green to blue-green in colour. - Rolled edges. - Has a small, thin structure at the base of the leaf blade that has a ring of white hairs. - 3 mm wide.	- Grey or greyish-green when young. - Straw-coloured when mature. - Occur in groups of 4-13 on a spike. - 4–10 mm long and 1–1.5 mm wide. - Present in summer. - Sometimes present annually in coastal areas.	- Seeds are 1 mm long. - Clustered on spikelets. - Clusters are 6-30cm long. - Present mid-summer - autumn.	**Stems:** - Slender. - Erect. **Roots:** - Fibrous.

How does this weed affect you?

- Degrades livestock pasture through low palatability to stock.
- Takes over pastures.

How does it spread?

- African lovegrass reproduces entirely by seed, they can be dispersed:
  - Short distances by wind and livestock.
  - Along roads by machinery and vehicles.
  - Via hay and fodder.
  - Through water.

Similar looking plants

It is important to accurately identify African lovegrass prior to undertaking control measures, as it can be confused with many desirable pasture grasses- such as Poa tussock *(Poa labillardieri)* and Consol lovegrass *(Eragrostis curvula cv. Consol)*. *If you see this plant, report it to your local council for positive identification and advice on the best control strategies for your situation.*

Control

Pasture management and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Clusters of seeds at the end of stems.

African lovegrass seeds and stems.

African lovegrass plant - Mel Wilkerson.

African lovegrass overtaking a paddock.

Seed heads and long, narrow green leaves.

Bear-skin fescue *(Festuca gautieri)*

Species of Concern WoNS

Common Name(s): Spiky fescue

What does it look like?

Leaves	Flowers/Seedheads	Seeds	Stems
- Bright green to bluish grey in colour. - Very fine and thread-like. - Sword-shaped and smooth. - 0.4-0.7 mm wide with a pointed tip.	- Flowers form on a 4.5-7 cm long seedhead. - Each head bears a few flowers that are 9-11 mm long. - Flowers in summer.	- Broadly oval-to-oblong shaped.	- Seedhead stems are 20-50 cm long and up to 1.7 mm in diameter.

How does this weed affect you?

- Degrades livestock pasture through low palatability to stock.
- Takes over grassland habitats.

How does it spread?

- Bear-skin fescue reproduces by seed and vegetatively.
- Plant fragments can break off and form new plants.
- Seeds can disperse by sticking to clothing, vehicles and equipment.

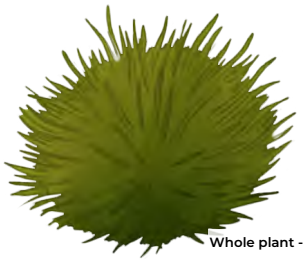
Control

Physical removal - *If you see this plant or have purchased it, report it to your local council for advice on the best control strategies for your situation.*

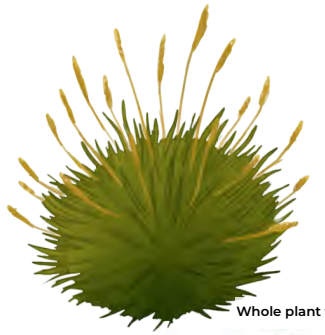
Bear-skin fescue seedhead close up.

Bear-skin fescue plant.

Bear-skin fescue plant.



Whole plant - not flowering.



Whole plant flowering.

Cane needle grass *(Nassella hyalina)*

Containment *(RLLS)*

What does it look like?

Leaves	Flowers/Seedheads	Seeds
- Varies between green-brown-cream in colour. - Flat, or rolled slightly inwards. - Perennial grass that grows in clumps. - 120 cm long.	- Green in colour. - Long, upright seedheads that look like canes. - Flowers in spring and summer.	- Have a twisted tail that sticks out from the flower base. - Bristly and sharp.

How does this weed affect you?

- The sharp seeds can damage sheep skins and carcasses, as well as contaminate fleeces.
- It is drought tolerant and forms dense, competitive infestations in grazing lands.
- Threatens environmental and agricultural values.

How does it spread?

- Cane needle grass reproduces entirely by seed.
- Seeds attach to clothing, fur, machinery and vehicles.
- Can disperse through soil, wind and water.
- Seeds are also dispersed through contaminated dried hay and straw.

Control

If you see this plant, report it to your local council for advice on the best control strategies for your situation.


Cane needle grass close-up.


Cane needle grass seeds - Matthew McGrath


Cane needle grass covering the ground.


Cane needle grass growing on a roadside reserve - Matthew McGrath


Cane needle grass flower cluster and seed.


Cane needle grass growing on a road-side reserve - Matthew McGrath

Chilean needle grass *(Nassella neesiana)*

Containment *(MLLS)* WoNS Eradication *(RLLS)*

What does it look like?

Leaves	Seeds
- Flat. - Coarse or ribbed on the surface. - Has a small tuft of hairs at the base of the leaf blade and leaf sheath. - 1–5 mm wide and up to 1 m tall.	- Pale brown when mature. - Very sharp. - Backwards pointing hairs. - 8–10 mm long. - Held inside two purple colour structures that are 16–25 mm long. **At the end of the seed is a long bristle, it is:** - Twisted when dry. - Circle of 1 mm long sharp teeth where it joins the seed. - Difficult to detach. - 6–9 cm long.

How does this weed affect you?

- Injures animals eyes and hides.
- Takes over pastures.
- Can halve productivity during summer.
- Downgrades wool and hinders meat quality.
- Reduces biodiversity.

How does it spread?

- Chilean needle grass can disperse through agricultural equipment and vehicles.
- Disperses by attaching to wool or fur.
- Disperses through contaminated hay and straw.
- Can also disperse via floodwaters.

Similar looking plants

It is important to accurately identify Chilean needle grass prior to undertaking control measures, as it can be confused with both native pasture grasses *(Austrostipa spp.)* and pasture weeds. Chilean needle grass is the only grass that has the circle of little teeth where the bristle joins the seed. Similar pasture weeds include *Nassella tenuissima* (Pg. 48), and *Nassella trichotoma* (Pg. 49).

Control

Pasture management, physical removal and chemical control. The persistant seed bank of Chilean needle grass makes it difficult to control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Chilean needle grass seedheads have backwards pointing hairs.


Cluster of Chilean needle grass.


Seedheads have purple glumes.


Seedheads with bent awns.


Mainly flowers from November to February.

Grasses

Coolatai grass *(Hyparrhenia hirta)*

Eradication

What does it look like?

Leaves	Seeds/Seedheads
- Greyish-green leaves that turn orange-red in winter. - Sharp. - Base of leaves are usually hairless and bent upwards. - Leaf blade is flat and 2-3 mm wide. - Dense tussock that grows up to 1.5 m tall.	- Brown seedheads - Occur in paired clusters. - 5-8 seedheads per cluster. - Arise from a 3-8 cm long flower stem. - Paired clusters are up to 35 mm long.

How does this weed affect you?

- Coolatai grass is a major threat to native biodiversity in stock routes, reserves and National Parks.
- One of the few grasses capable of invading undisturbed native ecosystems.
- Dominates pastures.


Key identifying features of Coolatai grass.

How does it spread?

- Seeds can attach to the fur and wool of animals, clothing, and on vehicles.
- The seed can be dispersed through slashing for 'road safety'.
- Seeds can also be dispersed via wind.
- Some seeds remain viable passing through an animal's gut and spread through their droppings.


Paired seedheads.

Similar looking plants

It is important to accurately identify Coolatai grass prior to undertaking control measures, as it can be confused with both native pasture grasses and pasture weeds- such as *Cymbopogan refractus*, *Themeda australis* and *Bothriochloa macra*.
See https://weeds.dpi.nsw.gov.au/Weeds/CoolataiGrass for distinguishing features.

Control

Quarantine, roadside management, pasture management and chemical control - *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Coolatai grass tussock.


Coolatai grass infested pasture.


Coolatai grass seed heads.

Gamba grass *(Andropogon gayanus)*

Prevention **WoNS PM**

Common Name(s): Rhodesian adropogon, rhodesian bluegrass, tambuki grass

What does it look like?

Leaves	Seeds/Seedheads	Stems/Roots
- Green in colour with a distinctive white mid-vein. - Covered with soft hairs. - 30–60 cm long and 3 cm wide.	**Seedheads:** - Green in colour and hairy. - Consists of up to 6 groups of branches. - Each group contains 2–18 branches. **Seeds:** - Cream to orange in colour. - Hairy.	**Stems:** - Covered in soft hairs. - Robust. - Grows in tall, dense stands up to 4 m tall and 70 cm in diameter. **Roots:** - Close to the soil surface. - Root system spreads up to 1 m from the tussock.

How does this weed affect you?

- Gamba grass has a high biomass that fuels intense bushfires.
- It can form tall, dense clusters, out-competing native plants and reducing native biodiversity.
- Has significant environmental impacts and is recognised as a key threatening process.


Gamba grass flower spike.

How does it spread?

- Gamba grass reproduces entirely by seed.
- Seeds disperse through wind, water movement and mud on animals and vehicles.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Gamba grass plants.


Gamba grass leaves.


Gamba grass infestation.

Mexican feather grass *(Nassella tenuissima)*

Prevention PM

Common Name(s): Texas tussock, white tussock

What does it look like?

Leaves	Flowers/Seedheads	Seeds	Stems
- Green-brown in colour. - Long and thin. - Tightly rolled, overlapped at edges. - Smooth if rolled between fingers. - Coarse if you slide your fingers down the leaf. - Leaves in the centre of the tussock are usually the tallest. - 0.25–0.5 mm wide and up to 60 cm tall.	- Green or purplish in colour. - On a round, smooth and hairless spike. - Clustered in a group.	- 2–3 mm long. - Held inside two purple or reddish-brown structures that are 6–10 mm long. - Bristle on the end of each seed is 4.5–9 cm long.	- Up to 80 cm long. - Grows in upright tussocks that are 70 cm tall.

How does this weed affect you?

- Unpalatable to stock and reduces pasture quality.
- Overtakes crops, pastures and roadsides.
- Invades native grasslands and woodlands.

How does it spread?

- Seeds disperse by attaching to clothing, livestock and vehicles.
- Seed also disperse through contaminated hay or livestock feed.
- Is sold through nurseries and seed companies under incorrect names.

See https://weeds.dpi.nsw.gov.au/Weeds/MexicanFeatherGrass for list of incorrect names.

Similar looking plants

Mexican feather grass, *Nassella neesiana* (Pg. 45), and *Nassella trichotoma* (Pg. 49) are all similar looking species. The plant height and seeds can help distinguish between these weeds. See https://weeds.dpi.nsw.gov.au/Weeds/MexicanFeatherGrass for distinguishing features.

Control

Physical removal and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Mexican feather grass showing glumes.


Mexican feather grass flower spikes.


Mexican feather grass plant.


Mexican feather grass growing in clumps.

Serrated tussock *(Nassella trichotoma)*

Prevention

What does it look like?

Leaves	Flowers/Seedheads	Seeds	Roots
- Whitish at the base, light green in the middle and brown on the tips. - Look like shallots. - Tightly rolled, with serrated edges. - Narrow and stiff. - Erect. - About 45 cm tall. - Entire tussock is about 25 cm wide.	- On a spike that leans over. - Clustered in a group. - Branched with single flowers on each branch. - Within reddish-brown to purple, specialised leaves.	- Golden brown in colour. - Small and hard. - 1.5 mm long. - With a ring of white hairs at the base of the seed. - Bristle is 25 mm long and at the tip of the seed.	- Deep. - Fibrous.

How does this weed affect you?

- Serrated tussock is a fire hazard.
- Low palatability for livestock, animals grazing on it become malnourished.
- Takes over pastures and native vegetation.
- Reduces pasture quality and agricultural values.

How does it spread?

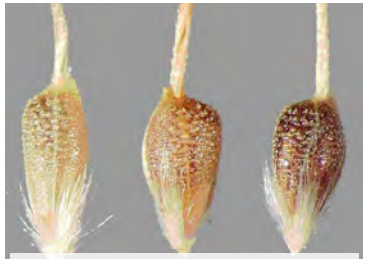
- A single plant can produce 140,000 seeds each season.
- These seeds can be dispersed long distances by wind (up to 10km or more) and water (up to 60km).
- The seeds also spread through contaminated feed and hay.
- Animals disperse seeds via hooves, fur and fleece.
- Serrated tussock seeds can also remain viable passing through an animal's gut and spread via droppings.
- Contaminated agricultural equipment and vehicles can also disperse seeds.

Similar looking plants

Serrated tussock looks very similar to Native Australian grasses and introduced weeds *Nassella neesiana* (Pg. 45) and *Nassella tenuissima* (Pg. 48). See https://weeds.dpi.nsw.gov.au/Weeds/SerratedTussock for distinguishing features.

Control

Pasture management, physical removal, biological and chemical control - *If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.*


Serrated tussock seeds have a coat of white hairs.


Serrated tussock root system.


Clump of serrated tussock.

Sorghum - Columbus grass *(Sorghum x almum)*

Species of Concern

What does it look like?

Leaves	Seed/Seedheads	Stems
- Dark green in colour. - Edges and midvein are often whitish in colour. - Tapered tips. - Up to 50 cm long and 2 cm wide.	**Seedhead:** - Pale green when young, turning reddish-brown with maturity. - Open branched and pyramid-shaped. - Many seed spikelets occur in pairs along the small branches and in triplets at the branch ends. - Up to 25 cm long. **Seeds:** - Reddish brown-black in colour. - Oval-shaped. - 3.5–4 mm long.	- Solid. - Inside of the stem contains a spongy substance. - About 1 cm thick. - Underground stems curve upwards, with many joins. - Usually grows 1–2.5 m tall, sometimes up to 3.5 m.

How does this weed affect you?

- Columbus grass is toxic to livestock.
- Overtakes crops, pastures and roadsides.
- Can easily cross breed with grain varieties, contaminating them.
- Harbours insect pests and diseases.
- Invades native vegetation.
- Is a significant threat to biodiversity values.

Columbus grass seeds.

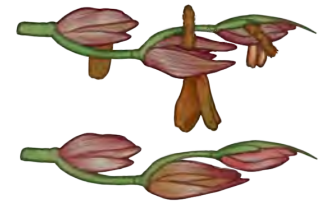
How does it spread?

- Columbus grass seeds have no dormancy period.
- Seeds mostly disperse through contaminated seed, hay and silage.
- Seeds can disperse by sticking to animal fur, clothing, vehicles and equipment.
- Seeds can travel large distances by flood waters.
- Some seeds remain viable passing through an animal's gut and disperse through their droppings.
- Can also disperse through plant fragments and creeping underground stems that can produce daughter plants nearby.

Seedhead of Columbus grass.

Control

Physical removal, pasture management and chemical control - *If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.*



Columbus grass seedhead close up.

Columbus grass stems, leaves and roots.

Columbus grass stems, leaves and seedhead.

Murray WAP

Sorghum - Johnson grass *(Sorghum halepense)*

Species of Concern WoNS

What does it look like?

Leaves	Seeds/Seedheads	Stems/Roots
- Green in colour with a distinctive white midvein. - Smooth surface with rough edges. - Alternately arranged along the stems. - Up to 50 cm long.	- Vary from green to deep red in colour.	**Stems:** - Creeping underground stems. - Clumping perennial grass that grows up to 2 m tall. **Roots:** - Fibrous root system.

How does this weed affect you?

- Johnson grass is toxic to livestock.
- Overtakes crops, pastures and roadsides.
- Harbours crop pests and diseases.
- Contaminates seed crops.

How does it spread?

- Johnson grass reproduces by seed and vegetatively.
- Seed and plant fragments are dispersed by contaminated hay and grain.
- Seeds can be dispersed through wind, water, animals and birds.
- Creeping underground stems can produce new daughter plants nearby.

Control

If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.

Johnson grass root system.

Johnson grass seedhead.

Johnson grass plant.

Johnson grass plant.

Johnson grass seedhead.

Spiny burrgrass *(Cenchrus longispinus) (Cenchrus spinifex)*

Species of Concern

Common Name(s): Gentle annie, innocent weed

What does it look like?

Leaves	Flowers	Seeds	Stems
- Bright green in colour. - Narrow leaf blades. - Smooth, sometimes serrated. - Can be twisted.	- Burrs are yellow-orange in colour. - Covered in fine hairs. - Sharply pointed and rigid spines. **C. longispinus:** - Burr spines are often tinted purple. - Burr spines are between 5.8-7.6 mm long. **C. spinifex:** - No purple tint. - Burr spines are up to 5 mm long.	- Seeds can be found inside each burr.	- Grow from the base of the plant and can be erect or spreading. - Grows up to 30–60 cm tall.

How does this weed affect you?

- Injures livestock, causing swelling and ulcers in the mouth.
- Injures humans and dogs.
- Penetrates the wool and hide of stock, reducing the value to both.
- Creates shearing difficulties.
- Creates inconvenience and discomfort to agricultural workers.

How does it spread?

- The barbed spines on the seed burr can disperse by attaching to animal fur, wool, clothing, vehicles and equipment.

Control

If you see this plant, report it to your local council for advice on the best integrated weed control strategies for your situation.


Spiny burrgrass burrs.


Spiny burrgrass seeds.


Spiny burrgrass seedhead - Tim Moodie


C. spinifex seedhead.


Spiny burrgrass growing on a roadside - Tim Moodie


Spiny burrgrass plant - Tim Moodie

Asparagus - Bridal creeper *(Asparagus asparagoides)*

Species of Concern WoNS

Common Name(s): Common bridal creeper

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green in colour. - Veins are parallel along the leaf. - Oval-shaped with tapered tips. - Shiny and soft. - Alternate along the stems. - 4-30 mm wide and 10-70 mm long.	- White in colour. - Tubular-shape. - 6 petals per flower. - 5-8 mm in diameter and 1 cm long. - Flowers in early spring.	**Fruits:** - Green berries when young, turn pink, deepening to a red-burgundy with maturity. - Round. - Sometimes sticky when mature. - 5-10 mm in size. - Each berry contains several black seeds. - Berries mature in late spring-early summer.	- Above ground stems emerge from underground stem mat once a year in autumn. **Above ground:** - Green in colour. - Creeping, long, twisting stems. - 3 m in length. - Branches extensively. **Underground:** - Cream-brown in colour. - Up to 10 cm underground. - Form a dense mat.

How does this weed affect you?

- Its climbing stems and foliage smother native vegetation.
- The thick underground mat prevents establishment of native seeds and root growth of other vegetation.
- Rare native plants are threatened with extinction by this weed.
- Causes losses to primary industries, such as smothering citrus and avocado trees.

How does it spread?

- Bridal creeper reproduces by seeds and vegetatively.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via their droppings.
- Movement of soil containing roots can disperse plants further.

Similar looking plants

A. asparagoides, *A. declinatus* (Pg. 54), *A. africanus* (Pg. 55), *A. plumosus* (Pg. 56), *A. aethiopicus* (Pg. 57), and *A. scandens* (Pg. 58), are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds.
See each profile on https://weeds.dpi.nsw.gov.au/Weeds/BridalCreeper for distinguishing features.

Control

Pasture and horticultural management, biological and chemical control.


Bridal creeper flowers and flowerbuds.


Bridal creeper leaves with rust.


Bridal creeper smothering a citrus tree.

Prevention WoNS PM

Asparagus - Bridal veil creeper *(Asparagus declinatus)*

Common Name(s): Bridal veil

What does it look like?

Flowers	Fruits/Seeds	Stems
- White with green or brown coloured markings. - 6 petals per flower. - 5-8 mm in diameter.	**Fruits:** - Light green berry when young, turning pale white with maturity. - Each berry contains 3-9 seeds. - Berries are 10 mm in diameter. **Seeds:** - Black in colour when ripe. - About 3 mm wide.	**Modified leaf stems:** - Blue-green in colour. - Needle-shaped. - Fern-like and soft. - Occur in dense clusters of 3 along the stems. - 3–10 mm long and less than 1 mm wide. **Above ground:** - Green in colour. - Hairless, thornless and wiry. - Up to 3 m long. - Emerge from underground stems once a year in autumn. **Underground:** - Cream-brown in colour. - Long-lived and creeping.

How does this weed affect you?

- Similar impacts to Bridal creeper, however, Bridal veil creeper is more difficult to control.
- Its climbing stems and foliage smother native vegetation.
- The thick underground mat prevents establishment of native seeds and root growth of other vegetation.
- Rare native plants are threatened with extinction by this weed.
- Causes losses to primary industries, such as smothering citrus and avocado trees.


Seeds and fruit.


Mature fruits.


Bridal veil creeper flower.


Bridal veil creeper plant.

How does it spread?

- Bridal veil creeper reproduces by seeds and vegetatively.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via their droppings.
- Movement of soil containing roots can disperse plants further.
- Underground plant fragments can be dispersed by people dumping garden waste or through earth moving equipment.

Similar looking plants

A. declinatus, *A. asparagoides* (Pg. 53), *A. africanus* (Pg. 55), *A. plumosus* (Pg. 56), *A. aethiopicus* (Pg. 57), and *A. scandens* (Pg. 58), are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds. See each profile on https://weeds.dpi.nsw.gov.au/Weeds/BridalVeilCreeper for distinguishing features.

Control

Physical removal and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Herbaceous

Asset Protection WoNS

Asparagus - Climbing *(Asparagus africanus)*

Common Name(s): Asparagus fern, ornamental asparagus

What does it look like?

Flowers	Fruits/Seeds	Stems/Roots
- Has 6 whitish-green, petal-like structures. - Has 6 thin, white, spike-like petals that spread out from the centre of the flower. - Small. - Occur in small clusters of 1-6 in the fork of the modified leaf-stems.	- Round green berries when young, turning bright orange and shrivel with maturity. - Berries contain 1 seed each. - 4-6 mm in diameter. - Fruit are produced year-round. - Flowers winter to spring.	**Modified leaf-stems:** - Bright green in colour. - Bristly. - Spine-like and cylindrical. - Branch spirally like a fern. - Occur in clusters of 6-12. - 10-15 mm long and 0.5 mm wide. **Stems:** - Can be a climber or low shrub. **Major stems:** - Blue-green in colour. - Hairless. - Ribbed, thick and often woody. - Up to 12 m long. - Older stems have sharp, often curved, spines that are 6-12 mm long. **Roots:** - Root system is thick, fleshy and fibrous.

How does this weed affect you?

- Climbing asparagus forms dense mats of roots that can prevent the germination and growth of other species.
- Strongly outcompetes native vegetation.
- Can completely smother small trees, understorey shrubs and ground layer plants.


Both mature and immature fruits.


Climbing asparagus foliage.


Climbing asparagus flowering.


Climbing asparagus smothering trees.

How does it spread?

- Ground asaparagus mainly reproduces by seed.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via droppings.
- Movement of soil containing roots can disperse plants further.
- Underground plant fragments may disperse by people dumping garden waste or through earth moving equipment.

Similar looking plants

A. africanus, *A. asparagoides* (Pg. 53), *A. declinatus* (Pg. 54), *A. plumosus* (Pg. 56), *A. aethiopicus* (Pg. 57), and *A. scandens* (Pg. 58), are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds.
See each profile on https://weeds.dpi.nsw.gov.au/Weeds/ClimbingAsparagus for distinguishing features.

Control

If you see this plant, report it to your local council for positive identification and advice on the best control strategies for your situation.

Herbaceous

Asparagus - Climbing fern *(Asparagus plumosus)*

Common Name(s): Ferny asparagus

What does it look like?

Flowers	Fruits/Seeds	Stems
- Has 6 greenish-white, petal-like structures. - Has 6 thin, white, spike-like petals that spread out from the centre of the flower. - Occur solitary or in pairs at the fork of the modified leaf-stems. - Are produced from spring to early autumn.	- Round green berries when young, turning blue-black with maturity. - Small. - Fruits contain small black seeds. - Flowers spring to summer.	**Modified leaf-stems:** - Bright green in colour. - Bristly and needle-like. - Branch spirally like a fern. - Occur in clusters. **Major stems:** - Green to reddish-brown in colour. - Either spineless or a few, small scattered spines. - Produce numerous horizontal spreading branches. - Vine-like in nature, winding as they grow. - About 5 m in length.

How does this weed affect you?

- Climbing asparagus fern can completely smother small trees, understorey shrubs and ground layer plants.

How does it spread?

- Climbing asparagus fern reproduces entirely by seed.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via droppings.
- Movement of soil containing seeds can disperse plants further.
- Seeds may also be dispersed in dumped garden waste.

Similar looking plants

A. plumosus, *A. asparagoides* (Pg. 53), *A. declinatus* (Pg. 54), *A. africanus* (Pg. 55), *A. aethiopicus* (Pg. 57), and *A. scandens* (Pg. 58), are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds. See each profile on https://weeds.dpi.nsw.gov.au/Weeds/ClimbingAsparagusFern for distinguishing features.

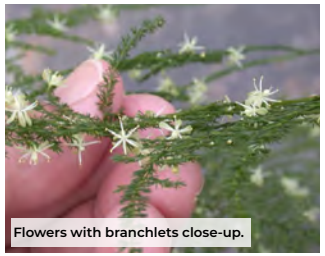
Control

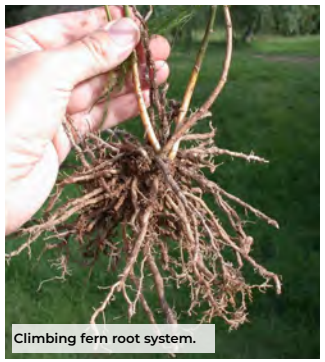
If you see this plant, report it to your local council for positive identification and advice on the best control strategies for your situation.


Climbing fern plant with young fruit.


Climbing fern plant mature fruit.


Flowers with branchlets.


Flowers with branchlets close-up.


Climbing fern root system.

Asparagus - Ground *(Asparagus aethiopicus)*

Common Name(s): Asparagus fern, basket fern, sprengeri's fern, bush asparagus

What does it look like?

Flowers	Fruits/Seeds	Stems/Roots
- White-pink in colour. - Spaced along a short stem. - Occur in clusters. - About 5 mm in diameter. - Flowers from spring to early autumn.	- Round green berries when young, turning glossy red with maturity. - 5-8 mm wide. - Contains one or several black, round seeds that are 3-5 mm in diameter.	**Stems:** **Modified leaf-stems:** - Green in colour. - Oval-shaped. - Flat. - Tapered to a fine, short point. - Occur in clusters of 1-5. - 1.5-2.5 cm long and 2-3 mm wide. **Above ground:** - Green-brown in colour. - Irregularly twisted. - Highly branched. - Have straight, stiff spines that are about 5-10 mm long. - Emerge from underground stems. - About 1-2 m long. **Underground stems/roots:** - Can be white and thick, or thin and fibrous. - Form dense clumps and mats.

How does this weed affect you?

- Ground asparagus forms dense underground mats of stems and roots that can prevent the germination and growth of other species.
- Forms dense clusters that smother native understorey plants.

How does it spread?

- Ground asparagus reproduces by seed and its creeping underground stems.
- Birds, rabbits and foxes eat the fruit and disperse the seeds via droppings.
- Movement of soil containing seeds or stem/root fragments can disperse plants further.
- Seeds, stems and roots may also be dispersed through dumped garden waste.

Similar looking plants

A. aethiopicus, *A. asparagoides* (Pg. 53), *A. declinatus* (Pg. 54), *A. africanus* (Pg. 55), *A. plumosus* (Pg. 56), and *A. scandens* (Pg. 58), are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds. See each profile on https://weeds.dpi.nsw.gov.au/Weeds/GroundAsparagus for distinguishing features.

Control

Physical removal and chemical control.


Both mature and immature fruits.


Ground asparagus has small white flowers.


Ground asparagus has long, scrambling stems.


Close-up of flat modified leaf-stems.

Herbaceous

Asset Protection

Asparagus - Snakefeather *(Asparagus scandens)*

Common Name(s): Asparagus fern, climbing asparagus, climbing fern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Dark green in colour. - Crescent-shaped, tapering at the tips.	- White to pinkish-white in colour. - Occur in solitary or in groups of 2-3 in the fork between the leaves on short stems. - Flowers winter to spring.	- Round green berries when young, turning glossy orange-red with maturity. - Usually contain 1 black seed.	**Stems:** - Green in colour. - Thornless and wiry. - Climbing vine. - Delicately branching, giving a fern-like appearance. - 2-4 m long. **Roots:** - Dense mats of fibrous underground roots.

How does this weed affect you?

- Forms dense mats of stems that can prevent the germination and growth of other species.
- Strangles native understorey plants.

Snakefeather fruits and foliage.

How does it spread?

- Birds, rabbits and foxes eat the fruit and disperse the seeds.
- Movement of soil containing seeds can disperse plants further.
- Seeds may also be dispersed through dumped garden waste.

Similar looking plants

A. scandens, *A. asparagoides* (Pg. 53), *A. declinatus* (Pg. 54), *A. africanus* (Pg. 55), *A. plumosus* (Pg. 56), and *A. aethiopicus* (Pg. 57) are all similar looking species. The modified leaf-stems and fruit can help distinguish between these weeds.
See each profile on https://weeds.dpi.nsw.gov.au/Weeds/Snakefeather for distinguishing features.

Snakefeather flowers and fruit.

Control

If you see this plant, report it to your local council for advice on the best control strategies for your situation.

Snakefeather root system.

Snakefeather leaves.

Snakefeather plant.

Herbaceous

Species of Concern

Bathurst burr *(Xanthium spinosum)*

Common Name(s): Burr weed, cockleburr

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Dark green in colour. - Prominent white veins. - Lighter underneath with a covering of fine hairs. - Leaves are divided into 3 irregular lobes, with the middle lobe being the longest.	**Male:** - Yellow to creamy white in colour. - Consist of numerous tiny flowers. - Arranged in dense, round clusters. - Occur at the very tip of the stem. **Females:** - Green in colour. - Can be solitary or in small clusters. - Occur at the fork of the leaf. - Usually found below male flowerheads.	**Fruits:** - Burrs are green when young, turning a yellow-straw colour, eventually browning with maturity. - Oval-shaped burr containing 2 seeds. - Covered in numerous hooked spines. - 1 to 1.5 cm long. - Fruit are formed late summer-autumn. **Seeds:** - Brown or black in colour. - Flat. - 1 of each pair of seeds is larger than the other.	- Yellowish-green when young, darkening with maturity. - Erect. - Along the stem are groups of 3-pronged, yellow spines.

How does this weed affect you?

- Bathurst burr is toxic to most livestock.
- One of the most common and economically threatening weeds in Australian agriculture.
- Burrs contaminate wool adding a substantial processing cost to remove.
- Reduces wool value due to 'vegetable fault'.
- Significant weed that reduces productivity of summer and horticultural crops.

Comparison of Xanthium burrs, from left to right: Bathurst burr, Noogoora burr, Californian burr, Italian cockleburr and South American burr.

How does it spread?

- Bathurst burr reproduces entirely by the seeds within the burrs.
- Burrs can attach to livestock, clothing and vehicles.
- Burrs are also dispersed through contamination of agricultural produce.
- Seeds can remain viable for many years.

Bathurst burr plant close-up.

Similar looking plants

Bathurst burr is similar in appearance to Californian burr *(Xanthium orientale)*, Noogoora burr *(Xanthium occidentale)* (Pg. 88) and Common thornapple *(Datura stramonium)*. All *Datura spp.* are poisonous.
See https://weeds.dpi.nsw.gov.au/Weeds/BathurstBurr for distinguishing features of each species.

Bathurst burr leaves.

Control

Pasture management and chemical control.

Whole Bathurst burr plant.

Herbaceous

Bitter stonecrop *(Sedum acre)*

Species of Concern

Common Name(s): Common stonecrop, gold moss, houseleek, mossy stonecrop, wall-pepper

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Yellow-green in colour. - Triangular to oval-shaped, succulent-like leaves. - Fleshy. - Hairless.	- Bright yellow in colour. - 5 sharp petals per flower. - Star-like. - 12 mm in diameter.	**Fruits:** - When dry they split to release many small seeds.	**Stems:** **Creeping:** - Fleshy and round. - Spread from the base of the plant. **Erect:** - Many short upright stems that may or may not flower. **Roots:** - Fibrous.

How does this weed affect you?

- Forms dense mats that exclude almost all native flora.
- Threatens biodiversity.

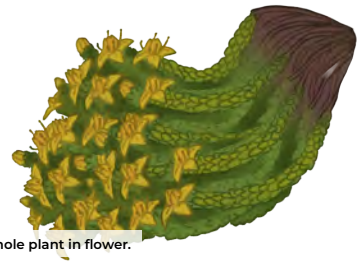
How does it spread?

- Bitter stonecrop reproduces by seed and vegetatively.
- Its creeping stems can produce daughter plants nearby.
- Bitter stonecrop is quick to mature and produces many long-lived seeds.
- Seed and plant fragments can spread by soil and occasionally water and vehicles.
- It is also spread through deliberate plantings.

Control

Physical removal and chemical control.

Bitter stonecrop stem, leaves, flowers and roots.



Whole plant in flower.

Bitter stonecrop flower bud and open flower close up.

Close up of Bitter stonecrop leaves.

Herbaceous

Murray WAP

Blue heliotrope *(Heliotropium amplexicaule)*

Species of Concern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Dull green in colour. - Oval-shaped tapering at both ends. - Soft. - Juvenile plant forms rosettes. - Alternates along the stems with maturity.	- Bluish-purple with a yellow centre. - 5 petals per flower. - Grow in dense clusters along one side of a coiled stem. - Flowers from November-March.	**Fruits:** - Develop into 2 nutlets. - Brown in colour. - Bumpy surface. - Each nutlet contains 2 small seeds. **Seeds:** - Sticky.	**Stems:** - Hairy and coiled. - Branched. - Highly fragrant. - 15–30cm tall and up to 2 m long. - Stems are ground creeping. **Roots:** - Woody. **Major root:** - Strong and slender. - Between 1-2 m in depth. **Secondary roots:** - Complex system of horizontal roots. - Occur off the major root.

How does this weed affect you?

- Blue heliotrope is highly toxic to livestock, causing a range of health issues and potentially death.
- Competes with desirable pasture plants.
- Dominates native flora, reducing biodiversity.

How does it spread?

- Blue heliotrope reproduces by seed and vegetatively.
- Sticky seeds attach to animals, agricrultural equipment and vehicles.
- Seeds can survive the digestive tracts of animals and disperse via droppings.
- Seed and plant fragments can also disperse through contaminated soil, hay, fodder or during agricultural activities.

Control

Pasture management and chemical control.

Blue heliotrope flowerhead close-up.

Blue heliotrope rosette.

Blue heliotrope plant.

Blue heliotrope flowers.

Whole Blue heliotrope plant.

Herbaceous

Riverina WAP

Broomrapes *(Orobanche spp.)*

Prevention PM

What does it look like?

Flowers	Fruits/Seeds	Stems
- Pale blue to violet in colour. - Trumpet-shaped. - 1–2.2 cm long. - Flowers in summer.	**Fruits:** - Dull yellowish-brown in colour. - Single-celled capsule containing hundreds of seeds. - Dries and then shatters in summer. **Seeds:** - Black, brown, or yellowish-brown in colour. - Oval-shaped. - Have a rough surface. - 0.3 mm long.	- Contain no green colouring. - Cream to yellow or brown in colour. - Only the flowering stem can be seen above ground. - Flowering stem spends a considerable period of time underground. - Covered with soft woolly hairs. - Extensively branched with flowers occuring on each branch. - Grows up to 30 cm tall.

How does this weed affect you?

- All Orobanche spp. (except *O. cernua var australiana* and *O. minor*) pose a serious threat to broadleaf grain and vegetable industries in Australia.
- Broomrape is a parasitic plant that attaches to crops, extracting nutrient and water requirements from their host.
- This reduces crop yields by up to 70%.
- They threaten crop export markets.

How does it spread?

- Requires a host plant to survive.
- Disperses via seed with one plant able to produce thousands of seeds per year.
- Seeds can lay dormant in the soil for many years.
- Broomrape seed can be dispersed by wind, livestock, vehicles, clothing and floodwaters.
- It can also be dispersed through contaminated fodder, seed products and soil.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Branched broomrape.


Broomrape emerging from the soil.


Branched broomrape flower.


Broomrapes close-up.

Herbaceous

Buffalo burr *(Solanum rostratum)*

Eradication WoNS

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Grey-green in colour. - Heavily lobed. - Has straight, needle-like spines up to 7mm long. - Leaves are 4-8 cm long and 2-4 cm wide.	- Yellow in colour. - Prickly. - 5 petals per flower. - Occur in clusters of 5-10 near the fork of every second leaf.	**Fruits:** - Green in colour. - Dry, round and burr-like. - Papery skin. - Covered in spines. - 10 mm in diameter. **Seeds:** - Red-black in colour. - 2-5 mm long.	- Green and woody. - Prickly. - Branching. - Has straight, needle-like spines up to 7 mm long. - Grows up to 40 cm tall.

How does this weed affect you?

- Plant is toxic.
- Can injure livestock with its sharp spines.
- Reduces wool quality and value due to 'vegetable fault'.
- Reduces value of cereal crops.


Stems, leaves, roots, burrs and flowers of Buffalo burr.

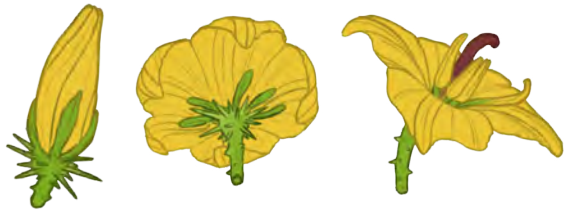
How does it spread?

- Buffalo burr reproduces via seed, within the burr-like fruit.
- Burrs disperse by attaching to wool, fur and clothing.
- Old plants can dislodge and form tumble weeds that disperse via wind.

Control

Chemical control.


Close up of Buffalo burr fruit.


Buffalo burr close up of flower bud and open flower.


Whole Buffalo burr plant.

Herbaceous

Species of Concern *(RLLS)*

Caltrop *(Tribulus terrestris)*

Common Name(s): Bindii, cat's head, goat's head burr

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Upper surface is dark green in colour, with white hairs on the underside that give leaves a silvery appearance. - Oblong-shaped. - Occur in opposite pairs of 4-8 leaflets along the stem. - Leaflets are 5-12 mm long and 3-5 mm wide.	- Bright yellow in colour. - 5 petals per flower. - Petals are 3-3.5 mm long. - Flowers are 8-15 mm - Flowers from spring-autumn - Flowers only last one day.	- Burrs are brown in colour. - Burrs are covered in sharp and rigid spines. - When ripe, burrs will split into segments, with 4 spines on each segment. - Each burr contains up to 4 seeds. - Spines are 4-5.5 mm long.	- Green-reddish brown in colour. - Grow up to 2 m long. - Stems are low growing.

How does this weed affect you?

- Caltrop is toxic to livestock.
- Burrs can injure livestock and people.
- Forms dense mats that can prevent the germination and growth of other species.

Caltrop burrs compared to a 20c piece - Tim Moodie.

How does it spread?

- Caltrop reproduces by seed, producing up to 20,000 seeds per plant.
- The spiky burrs are dispersed by attaching to vehicles, equipment, the fleece/fur/feet of fauna and the shoes or clothing of humans.
- Buried seeds can remain viable for several years.

Caltrop stem, leaves and burrs - Tim Moodie.

Similar looking plants

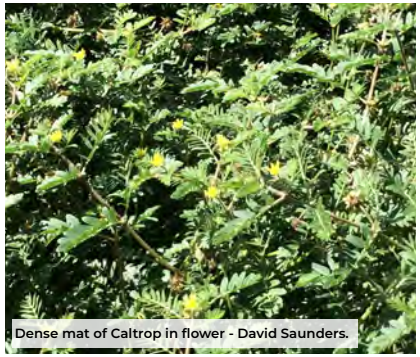
Yellow vine *(Tribulus micrococcus)* is a native species of Tribulus. Yellow vine has larger yellow flowers, and round burrs with no spines. Yellow vine is still considered a weed, but currently has no weed management or control measures in the Murray or Riverina regions.

Control

Physical removal and chemical control.

Caltrop growing along the ground - Tim Moodie.

Caltrop - Tim Moodie.



Dense mat of Caltrop in flower - David Saunders.

Species of Concern

Cape tulips

One-leaf *(Moraea flaccida)* **Two-leaf** *(Moraea miniata)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Corms
- Green in colour. - Flat and ribbed. - 1-2 cm wide and up to 1 m long. **One-leaf Cape tulip:** - 1 leaf per plant. **Two-leaf Cape tulip:** - 2 or 3 leaves per plant.	- Usually orange-salmon pink with a yellow centre. - Oval-shaped with a tapered tip. - 6 petals per flower. - Occur in clusters at the end of branches. **Two-leaf Cape tulip:** - Has small green dots in the yellow centre.	**Fruits:** - Green when young, turning brown with maturity. - Cylindrical-shaped. - Capsule splits into 3 parts from the top to realease seeds. - Each capsule contains 150 seeds. - Fruit capsules are up to 5 cm long. **Seeds:** - Brown in colour. - Irregular in shape. - Up to 2 mm long.	**Stems:** - Green in colour. - Stiff and upright. - Slightly zig-zagged. - Branch at the top where flowers are formed. - Grow up to 60 cm tall. **Corms:** - White, bulb-like structures that grow underground. **One-leaf Cape tulip:** - Contain 1-3 corms. - Enclosed in a brownish, fibrous covering. **Two-leaf Cape tulip:** - Enclosed in a hard, black covering. - Has mini-corms at the base of the plant and each leaf.

How does this weed affect you?

- All parts of the plant are toxic to humans and animals, causing serious illness or death.
- Overtakes pastures, roadsides and native ecosystems.

One-leaf Cape tulip flower close-up.

How does it spread?

- Reproduces from the bulb-like corms located at the base of the stem.
- Corms can disperse via hay, agricultural equipment and vehicles or earth moving equipment.
- Some Cape tulips reproduce by seed.
- Seed disperses through contaminated hay and silage.

Two-leaf Cape tulip flower close-up.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*

Whole Cape tulip plant.

One-leaf Cape tulip leaves and flowers.

Two-leaf Cape tulip produces clusters of bulbils in the leaf axes.

Chinese violet *(Asystasia gangetica subsp. micrantha)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Deep green in colour. - Paler on the underside. - Oval-shaped, sometimes almost triangular. - Have scattered hairs. - Occur in pairs along the stems. - 2.5–16.5 cm long and 0.5-5.5 cm wide.	- White in colour. - Distinctive purple blotches in two parallel lines on one petal. - Bell-shaped. - 2–2.5 cm long.	- Guitar-shaped fruit capsule, with the neck of the guitar attached to the stem. - Each capsule contains 4 flattened seeds. - Fruit capsules are 3 cm long.	- Green to red in colour. - Have scattered hairs. - Creeping stems that grow up to 1 m high independantely or up to 3 m tall when growing over vegetation. - Grows in sprawling mats.

How does this weed affect you?

- It creeps up other vegetation, smothering it.
- Chinese violet removes habitat, reduces biodiversity and productivity.

How does it spread?

- Chinese violet reproduces by seed and vegetatively.
- Seeds are dispersed explosively from drying fruit capsules.
- Plant lies dormant underground during winter and re-grows the following spring.
- Seed and plant fragments are mainly dispersed as a result of dumping garden waste or uncontrolled garden plantings.

Similar looking plants

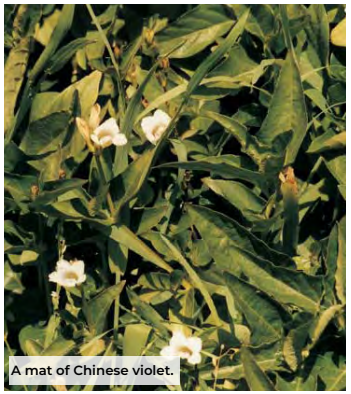
Another commonly cultivated sub species of Chinese violet (*Subsp. gangetica)*, is planted widely in Australia but is less weedy. *Subsp. gangetica* has purple flowers.

Control

If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.


Chinese violet flower close-up.


Chinese violet root system.


A mat of Chinese violet.


Chinese violet flower, leaves, stems and fruit.

Common heliotrope *(Heliotropium europeum)*

Common Name(s): Catepillar weed, potato weed

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Dinstinctively grey-green in colour on upper surface. - Pale green in colour on underside. - Oval to egg-shaped. - Densely hairy, with obvious veins. - Juvenile plant forms rosettes. - Alternate along the stems with maturity. - 10-90 mm long and 7.5-30 mm wide.	- White with a yellow centre. - 5 petals per flower. - Tubular. - Hairy on the outside, hairless on the inside. - Grow in dense clusters in rows of 2 along the upper side of a coiled stem. - Occur solitary, or in pairs at the tips of stems. - 2-3 mm long and 3-6 mm wide.	**Fruits:** - Consist of 4 brown nutlets. - Wrinkly in appearance. **Seeds:** - Brown to black in colour.	**Stems:** - Grey-green in colour. - Covered in short, white hairs. - Usually grows between 10-30 cm tall, occasionally up to 50cm.

How does this weed affect you?

- Common heliotrope when consumed in large quantities, can cause livestock a range of health issues and potentially death.
- Competes with desirable pasture plants.
- Dominates native flora, reducing biodiversity.

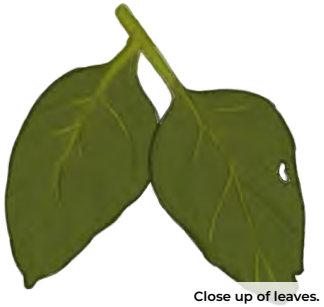
How does it spread?

- Common heliotrope reproduces entirely by seed.
- Nutlets can attach to animals, agricrultural equipment and vehicles.
- Seeds can survive the digestive tracts of animals and disperse via droppings.
- Seeds can also disperse through contaminated soil, hay, fodder or during agricultural activities.

Control

Pasture management and chemical control. *If you see this plant, report it to your local council for advice on the best control strategies for your situation.*


Close up of leaves.


Close up of leaves.


Common heliotrope plant.


Common heliotrope stem with leaves and flowers.


Common heliotrope flower clusters.

Devil's claw

Species of Concern *(RLLS)*

Purple flowered *(Proboscidea louisianica)* **Yellow flowered** *(Ibicella lutea)*

What does it look like?

Leaves	Flowers	Seed Capsules	Stems
- Green in colour. - Covered with sticky hairs. **Purple Flowered:** - Rounded or heart-shaped. **Yellow Flowered:** - Large, round or kidney-shaped leaves.	- Trumpet-shaped. - Flower from summer-autumn. **Purple Flowered:** - Creamy-white to mauve or purple with dark purple and orange markings. **Yellow Flowered:** - Yellow with purple markings.	- Woody capsules are 8–10 cm long and 1–2 cm wide. - Have 2 woody horns that are 10–25 cm long.	- Cream-greenish in colour. - Branched and covered with sticky hairs. - Grow up to 50 cm tall and spread 1.5 m wide.

How does this weed affect you?

- The woody seed capsules can attach to the hooves or head of livestock, causing injury.
- This may restrict feeding, leading to eventual death from starvation or cause lameness.
- Reduces wool quality.
- Outcompetes summer crops.

How does it spread?

- The woody capsules can disperse by attaching to the fur, fleece and hooves of animals.
- Capsules can also attach to clothing and equipment.

Control

Chemical control.

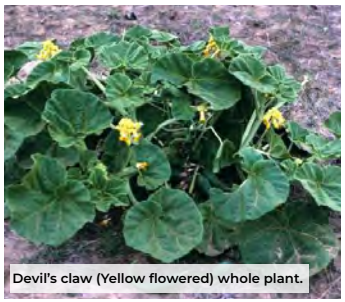
Devil's claw pod and seeds.

Devil's claw (Purple flowered) seedpod and leaves.

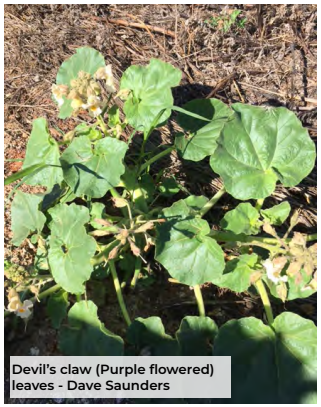
Devil's claw (Yellow flowered) close-up.

Devil's claw (Purple flowered) close-up.

Devil's claw (Purple flowered) close-up.



Devil's claw (Yellow flowered) whole plant.



Devil's claw (Purple flowered) leaves - Dave Saunders

Fireweed *(Senecio madagascariensis)*

Eradication

Common Name(s): Madagascar ragwort

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Bright green in colour. - Fleshy and narrow. - Serrated, smooth or lobed edges. - Alternate along the stems. - 2-7 long and 3-10 mm wide.	- Yellow and daisy-like. - 12-15 (usually 13) petals per flower. - Occur in clusters at the ends of stems. - 1-2 cm in diameter. - Centre of the flower has clusters of tiny, darker yellow florets. - Can have up to 200 flowers per plant.	- Brownish in colour. - Small. - Cylindrical-shaped. - Downy on the surface. - Covered in fine, white feathery hairs. - 1-3 mm long.	**Stems:** - Green in colour. - Has many stems. - 10-60 cm tall. (usually low-growing). **Roots:** - Fibrous. - Branched from a central taproot. - 10-20 cm deep.

How does this weed affect you?

- Fireweed poisons livestock, causing irreversible liver damage and death.
- Takes over pastures.

How does it spread?

- Fireweed reproduces entirely by seed, producing up to 30,000 seeds a season.
- The seeds are dispersed via wind.
- Large distance dispersal is more likely through:
  - Human activity.
  - Animals.
  - Clothing, vehicles and equipment.
  - Contaminated hay, silage and grain products.

Similar looking plants

It is important to accurately identify Fireweed; as it can be confused with Variable groundsel *(Senecio pinnatifolius)*, a native Australian plant that is not considered a weed. *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*

Control

Pasture management, physical removal, biological and chemical control.

Close-up of Fireweed showing 13 petals.

White, fluffy hairs on Fireweed seeds help them spread by wind.

Fireweed seedling with 5-6 serrated leaves.

Left of fenceline: pasture direct drilled with ryegrass competes well with fireweed.

Fireweed has small daisy-like flowers.

Galenia *(Galenia pubescens)*

Species of Concern *(MLLS)* **WoNS**

Common Name(s): Coastal galenia, carpet weed

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Greyish-green in colour. - Spoon-shaped with smooth edges and tapered tips. - Fleshy and hairy. - Alternate along the stems. - 0.4-2.5cm long and 0.2-2cm wide.	- White, greenish-white or pinkish in colour. - Small. - Almost stemless. - Occur as a solitary flower in the leaf fork. - 5 petals per flower that are 2-3 mm long. - Flowers are 4–6 mm in diameter. - Flowers October- April.	**Fruits:** - Small, light brown capsules. - Usually contain 5 seeds. - 2.5–3 mm long and about 1 mm wide. **Seeds:** - Dark red to black in colour. - Circular to kidney-shaped. - About 1.5 mm long.	- Greyish-green when young. - Woody at the base. - Covered in small white hairs. - Creeping. - Grows up to 60 cm tall and 1-2 m wide.

How does this weed affect you?

- Galenia is toxic to livestock.
- Forms dense mats that smother existing vegetation.
- Bees that collect nectar of Galenia, produce unsellable honey due to a disagreeable flavour.

How does it spread?

- Galenia reproduces entirely by seed.
- Most dispersal of seed occurs by wind, water, birds and livestock.
- Can be dispersed through the movement of contaminated soil by vehicles and equipment.

Control

Physical removal and chemical control.

Galenia has greyish-green slightly succulent leaves.

Galenia seeds.

Galenia whole plant.

Galenia whole plant.

Golden dodder *(Cuscuta campestris)*

Species of Concern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Resemble scales along the stems.	- White or cream in colour. - Bell-shaped. - Occur in clusters. - 3–5 petals (usually 5) per flower. - 3–4 mm in diameter. - Flowers September-May.	**Fruits:** - Round capsules. - 3–4 mm in diameter. - Up to 4 seeds per capsule. **Seeds:** - Brown, yellow or grey in colour. - Slightly pear-shaped. - 1–2 mm in diameter.	**Stems:** - Golden yellow in colour. - Thin and thread-like. **Roots:** - Has no true roots.

How does this weed affect you?

- Golden dodder is a parasitic plant that removes nutrients and kills its host plant.
- Toxic to livestock, causing organ damage and potentially death.
- Is a threat to lucerne, vegetables, broadleaf crops, pastures and seed crops.
- Invades and overtakes environmental areas and native vegetation, especially along waterways and riparian areas.
- Any seed, fodder or hay contaminated with Golden dodder is prohibited from sale in NSW.

How does it spread?

- Golden dodder reproduces by seed and vegetatively.
- Seeds disperse in capsules via movement of water.
- Some seeds can also remain viable passing through an animal's gut and disperse via droppings.
- Stem fragments can also disperse via agricultural vehicles and equipment, on livestock or in water.

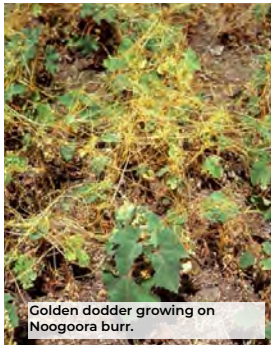
Control

Pasture management, agricultural hygeine and chemical control.

Golden dodder growing in a cropping situation.

Golden dodder growing on another plant.

Golden dodder stems and scales close-up.



Golden dodder growing on Noogoora burr.

Herbaceous

Ground cherries **Perennial** *(Physalis longifolia)*
Prairie *(Hederifolia)*

Containment *(MLLS)*
Eradication *(RLLS)*

What does it look like?

Leaves	Flowers	Fruits	Stems
- Green in colour. - Wavy edges. **Perennial:** - Tapered at both ends. - Alternate along the stems. **Prairie:** - Egg-shaped with a tapered tip. - Hairy on the edges and veins. - 4-6 cm long and 3-4 cm wide.	- Bell-shaped. - 5 fused petals. - Occur solitary on the tip of the stems. **Perennial:** - Yellow in colour. - Centre has a brown to purple spotted area on petals. **Prairie:** - Pale yellow in colour.	- Are a single round berry. - Green when young, turning orange with maturity. - Fruit is covered by a leaf-like husk. - Produced all year round.	- Green in colour. - Hairless to slightly hairy. - Branched and ribbed. - Grows up to 50 cm tall.

How does this weed affect you?
- Unpalatable to livestock.
- Perennial ground cherry and Prairie ground cherry both compete with pasture and native plants.

How does it spread?
- The fruit husk disperses via water and wind.
- Seeds can germinate when the fruit passes through an animal's gut and is then dispersed via droppings.
- Perennial ground cherry and Prairie ground cherry can also reproduce via plant fragmentation, and can disperse through contaminated hay.

Control
Chemical control.


Perennial ground cherry flower.


Prairie ground cherry flowers.


Perennial ground cherry flowers and leaves.


Prairie ground cherry whole plant.


Prairie ground cherry whole plant.


Prairie ground cherry fruit.

Harrisia cactus *(Harrisia martinii) (Harrisia tortousa)*

Species of Concern

Common Name(s): Harrisia

What does it look like?

Flowers	Fruits/Seeds	Stem spines	Stems/Roots
- White or pinkish in colour. - Funnel-shaped with a green base. - 20cm long. - Flowers open at night and wither in the morning.	**Fruits:** - Red with white flesh. - Round. - Produce fruit all year round. ***H. martinii:*** - Warty. - Spines up to 5 mm long. ***H. tortousa:*** - No warts. - Less spines. **Seeds:** - Black in colour. - 400-1000 seeds per fruit.	- Spines occur on the humps along the stem. ***H. martinii* has:** - 1 central spine per hump, 2-3.5 cm long. - 1-3 spines surrounding central spine, 1-1.5 cm long. - A row of small spines, 3-6 mm long. ***H. tortousa* has:** - 1 central spine per hump, 3-5 cm long. - 4-8 spines surrounding central spine, 1-3 cm long. - No smaller row of spines.	- Green in colour. - Fleshy, slender and branched. - Often tangle, forming dense mats up to 60 cm tall. - Stems can climb up other plants to a height of 2-3 m. ***H. martinii* has:** - 4-5 ridges and prominent pyramid-shaped humps along the stem. ***H. tortousa* has:** - 6-8 ridges and only slight humps along the stem. **Roots:** - Thick, fleshy storage roots can be up to 50 cm deep. - Shallow, fibrous roots can be up to 10 cm deep.

How does this weed affect you?
- Its sharp spines can injure people and animals, sometimes killing native wildlife.
- Forms dense clusters that outcompete native grasses.
- This reduces the productivity of grazing land, makes mustering difficult, prevents movement of livestock and restricts access to water points.
- Devalues wool and hide and prevents sheering.
- Provides habitat for pest animals.

How does it spread?
- Harrissia reproduces by seed and vegetatively.
- Birds eat the fleshy fruit and disperses the seed via their droppings.
- Wild pigs can spread plant fragments.
- Stems can also disperse by attaching to animals, people, vehicles and equipment.

Control
Physical removal, biological and chemical control.
When controlling Harrisia cactus, wear protective clothing, gloves, boots and eyewear.


Harrisia cactus fruit are red with white flesh and black seeds.


Harrisia cactus with mealybugs.


Harrisia cactus has long spines.


Harrisia cactus close-up.


Harrisia cactus whole plant with fruit.

Hawkweeds

(Hieracium pilosella spp.) (Hieracium aurantiacum)

Eradication *(MLLS)* **PM**
Prevention *(RLLS)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Green in colour with red along the edges. - Underside of leaves are lighter in colour. - Lance-shaped with tapered tips. - Smooth or slightly toothed edges. - Hairy on both surfaces. - Sometimes sticky to touch. - Leaves form rosettes.	- Bright yellow, red or orange in colour. - Underside of some petals have red stripes. - Many rectangular petals, with serrated tips. - Occur on the very tips of the stems. - Occur in clusters of 5-30. - 10-20 mm in diameter.	- Seedheads form from the flowers. - Purple to black in colour. - Ribbed with a tuft of bristles emerging from the tip. - Bristles are 6 mm long.	- Vertical stems are green and hairy. - Horizontal stems run along the ground. - Grows up to 40 cm high.

How does this weed affect you?

- Produces chemical that prevent the germination and growth of other plants.
- Can form dense mats of creeping stems that prevent other flora from establishing.
- Outcompetes native flora.

How does it spread?

- Hawkweed species reproduce by seed and by their horizontal stems.
- Each horizontal stem can produce new daughter plants.
- Seedlings disperse easily by wind and water.
- Tiny seeds can also attach to hair, fur, feathers, clothing and vehicles.
- Seeds can be dispersed by dumped garden waste and contaminated soil.

Similar looking plants

Hawkweed species look similar in appearance. However, Orange hawkweed differs by having orange flowers and Mouse-eared hawkweed tends to have yellow flowers.
See https://weeds.dpi.nsw.gov.au/Weeds/Hawkweeds for more details.

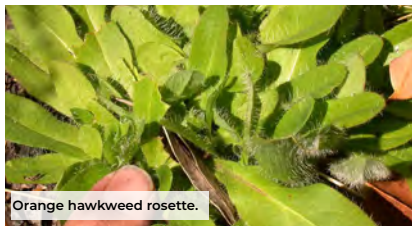
Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Hawkweed flower close-up.


Orange hawkweed roots.


Hawkweed flowers can be orange, yellow or red.


Orange hawkweed rosette.

Herbaceous

Horehound *(Marrubium vulgare)*

Species of Concern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green in colour. - Covered in white hairs that give leaves a silvery appearance. - Rounded with toothed edges. - Deeply crinkled. - Occur in opposite pairs along the stem.	- White in colour. - Small and tubular. - Occur in dense clusters in the forks of the leaves.	**Seed capsules:** - Have spines. **Seeds:** - Brown-black in colour. - Egg-shaped.	- Branched. - Woody at the base. - Square. - Densely covered in white hairs. - Grows up to 30-80 cm tall.

How does this weed affect you?

- Outcompetes agricultural and native flora.
- Seed capsules attach to wool, causing considerable matting of sheep fleece.

How does it spread?

- Horehound reproduces entirely by seed.
- Seed capsules attach to animals, clothing and vehicles.
- Seeds can also disperse via water and contaminated agricultural produce.

Control

Biological and chemical control.


Horehound bush.


Horehound with small white flowers.


Horehound seedling.


Horehound leaves.


Horehound bush.

Herbaceous

Horsetails *(Equisetum species)*

What does it look like?

Leaves	Fruits	Stems/Roots
- Black in colour. - Small and triangular-shaped. - Lay flat, joining to form a ring around the stem.	- Green to black in colour. - Cone-like structure on the tip of stems. - Bumpy surface. - Cones produce pale-green-ish to yellow spores.	**Stems:** - Feel hard and rough. - Break easily at the joints. - Grows up to 120 cm tall. **Unbranched:** - Pale brown in colour. - Produce fruit cones and then dies. **Branched:** - Green in colour. - Do not produce fruit. - Hollow. - Bamboo-like. **Roots:** - Can extend horizontally 100 m below ground.

How does this weed affect you?

- Can be toxic to livestock.
- Produces chemicals that suppress other vegetation.
- Reduces crop yields.

How does it spread?

- The horizontal root system is the main way this plant disperses.
- Plant fragments can also disperse via cultivation, contaminated soil or dumped garden waste.
- Although spores are produced, most spores die from moisture stress.

Control

If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Fruiting cones of Horsetails.

Stem of horsetail plant close-up.

Horsetail plants close-up.

Horsetail plants.

Horsetail plants close-up.

Small infestation of Horsetail.

Khaki weed *(Alternanthera pungens)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green in colour. - Round-oval in shape with tapered tips. - Covered in short, soft hairs that are sometimes present on leaf stems and blades. - Juvenile plant forms rosettes. - Oppositley arranged along the stems with maturity.	- Greenish-yellow or green in colour. - Occur in small round clusters. - Clusters occur at the fork in the leaves. - Barbed hairs at the base of petals that harden and form spiny burrs. - Flowers spring-autumn.	- Burr fruit is yellowish-orange in colour. - Shiny. - Spiny.	- Reddish in colour. - Covered with short, soft hairs. - Spreads as a thick ground cover.

How does this weed affect you?

- Its spiny burrs can cause injuries to humans, dogs and livestock.
- Contaminates crops and devalues wool.

How does it spread?

- Khaki weed reproduces entirely by seed.
- Seeds disperse by burrs attaching to animals, clothing and vehicles.

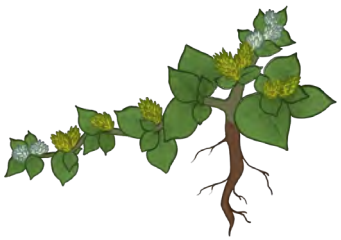
Control

Chemical control.

Khaki weed leaves and burrs.

Khaki weed growing on asphalt - Tim Moodie

Khaki weed leaves and burrs.



Khaki weed plant.

Whole Khaki weed plant - Jen Cunningham.

Herbaceous

Knapweed - Black *(Centaurea xmoncktonii)*

Prevention PM

What does it look like?

Leaves	Flowers	Stems
- Green in colour. - No spines or thorns. **Leaves at base of plant:** - Oval-shaped. - Soft and velvety. - Occur in clusters, forming rosettes. - Up to 25 cm long. **Stem-leaves:** - Stalkless. - Alternate along the stems. - About 3 cm long.	- Pink to purple in colour. - No spines or thorns. - Occur on the tips of stems. - Surrounded by rows of scales below the petals. **The scales are:** - Dark brown to golden brown in colour. - Have fine, comb-like edges. - Make the flowerhead look a bit like a pine cone.	- Green in colour. - Erect. - Rough, hairy and ribbed. - Branched. - Grows up to 1 m tall.

How does this weed affect you?

- Black knapweed is unpalatable to livestock.
- Produces chemicals that supress other plants.
- Outcompetes pasture plants.

How does it spread?

- Each plant can produce up to 18,000 seeds a year.
- Seeds atttach to animals and clothing.
- Some seeds can also remain viable passing through an animal's gut and disperse via droppings.
- Black knapweed can disperse by seed or root fragments via water, wind, vehicles and equipment or soil.

Similar looking plants

It is important to accurately identify Black knapweed, as it can be confused with other weeds.
See https://weeds.dpi.nsw.gov.au/Weeds/BlackKnapweed for distinguishing features.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Close-up of flower heads and slender branched stems.


Black knapweed seedlings.


Black knapweed rosette with hairy leaves.


Black knapweed plants growing in roadside vegetation.


Close-up of hairy leaves.

Herbaceous

Knapweed - Creeping *(Rhaponticum repens)*

Containment *(MLLS)*

Common Name(s): Hardhead thistle, Russian thistle, Russian knapweed

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Silvery-green when young, turning greyish-green with maturity. - No spines or thorns. **Leaves at base of plant:** - Irregularly, lance-shaped. - Toothed edges. - Occur in clusters. - Up to 15 cm long and 2.5 cm wide. **Stem-leaves:** - Sparsely covered in fine hairs. - Edges are either smooth, or slightly toothed. - Alternately arranged along the stems. - 1-5 cm long and 0.2-1 cm wide. - Upper leaves are smaller.	- Pink to purple in colour. - A solitary flowerhead occurs on the tip of each stem. - Surrounded by rows of scales below the petals. **The scales are:** - Green in colour. - Have papery-thin, pale yellow, hairy tips.	- Creamy white in colour. - Sometimes speckled. - Oval-shaped. - Has a tuft of stiff, barbed hairs up to 8 mm long. - The seed is 3-4 mm long and 2-3 mm wide.	**Stems:** - Young stems are covered in soft, grey hairs. - Older stems are less hairy and slightly grooved. - Branched. - Grows up to 1 m tall. **Roots:** **Horizontal Roots:** - Extend several meters across and contain many buds that eventually develop into new plants. **Vertical Roots:** - Reach to depths of 5-7 m.

How does this weed affect you?

- Creeping knapweed competes with cereal crops, reducing yields by up to 80%.
- Produces chemicals that exclude other vegetation.
- Can taint flour milled from contaminated grain, due to bitter-tasting seeds.

How does it spread?

- Creeping knapweed reproduces by seed and vegetatively.
- Buds present on horizontal roots can develop into new plants.
- Plant fragments and seeds disperse through contaminated hay, grain, vehicles and equipment.
- Seeds can be dispersed through water.
- Some seeds can also remain viable passing through an animal's gut and spread via droppings.

Similar looking plants

It is important to accurately identify Creeping knapweed, as it can be confused with other weeds.
See https://weeds.dpi.nsw.gov.au/Weeds/CreepingKnapweed for distinguishing features.

Control

Chemical control.


Flowerhead close-up.


Roadside infestation of Creeping knapweed.


Creeping knapweed plant.

Herbaceous

Prevention

Knapweed - Spotted *(Centaurea stoebe subsp. micranthos)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Grey–green in colour. - Finely hairy to velvety. - No spines or thorns. **Leaves at base of plant:** - Deeply lobed. - Form rosettes. - Up to 20 cm long and 5 cm wide. **Stem-leaves:** - Alternate along the stem. - Oval or lobed. - 2.5-7.5 cm long.	**Flowers:** - Purple-pink in colour. - No spines or thorns. - 2-3 cm wide. - A solitary flowerhead occurs on the tip of each stem. - Surrounded by rows of scales below the petals. **The scales are:** - Mostly green. - Have pointed, dark-brown to black tips. - Sometimes have a stripey appearance.	- Brown when mature. - Sometimes have a tuft of hairs, usually less than 3 mm long. - Seeds are 2-3 mm long.	- Green in colour. - Upright and branched. - Grows up to 0.3–1.2 m tall.

How does this weed affect you?

- Is unpalatable to livestock.
- Produces chemicals that supress other plants.
- Outcompetes pasture and native plants.

How does it spread?

- Spotted knapweed reproduces by seed and vegetatively.
- Seeds atttach to animals and clothing.
- Some seeds can also remain viable passing through an animal's gut and spread via droppings.
- Spotted knapweed can disperse by seed or root fragments via water, wind, vehicles and equipment or soil.

Similar looking plants

It is important to accurately identify Spotted knapweed, as it can be confused with other weeds.
See https://weeds.dpi.nsw.gov.au/Weeds/SpottedKnapweed for distinguishing features.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Spotted knapweed has black-tipped bracts below the petals.


Spotted knapweed flowerhead structure.


Spotted knapweed rosette leaves are deeply lobed.

Herbaceous

Prevention **PM**

Kochia *(Bassia scoparia)*

Common Name(s): Burning bush, summer cypress

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Entire plant is green in colour when young. - Changes to pale yellow, pink and then rusty-brown with maturity. - Flat with hairy edges. - Alternate along the stem. - Up to 5 cm long and 8 mm wide.	- Same colouring as leaves. - Have hairy spikes.	- Fruit are small, star-shaped and contain a single seed. - Seeds are dull brown in colour.	- Reddish-pink in colour, with pale stripes. - Conical appearance. - Has a main stem with many branches. - Grows up to 20-150 cm tall.

How does this weed affect you?

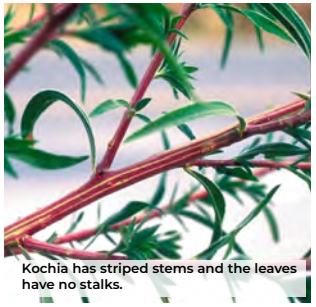
- Toxic to livestock.
- Produces chemicals that inhibit the growth of nearby plants.
- Reduces pasture and crop production.

How does it spread?

- Kochia reproduces entirely by seed, typically producing around 14,000 seeds per plant, per year.
- Seeds are dispersed in autumn when entire dead plant breaks off, becomes a tumbleweed and is carried by the wind.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Kochia has striped stems and the leaves have no stalks.


Kochia growing tips.


Kochia infestation.


Close-up of flat Kochia leaves.


Kochia plants turn yellow-brown as they mature.

Herbaceous

Lantana *(Lantana camera)*

Asset Protection **WoNS**

Common Name(s): Common lantana

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Bright green and rough on top. - Hairy and pale green underneath. - Egg to sword-shaped. - Serrated edges. - Occur in opposite pairs along the stems. - 10 cm long and 2-8 cm wide.	- Can be pink, red, orange or white - Can have pink edges. - Occur in clusters. - Flowers year round.	- Fruits are round berries. - Green when young, darkening to a shiny, purple-black with maturity. - Occur in clusters. - Contains one seed per fruit. - 6-8 mm wide.	**Stems:** - Square-shaped, with short, curved prickles. - Grows up to 2-4 m tall. - Can scramble up into trees. **Roots:** - Fibrous.

How does this weed affect you?

- Very toxic to humans and livestock.
- Fuels bushfires.
- Becomes a dominant groundcover.
- Invades pastures, roadsides, native grasslands, woodlands and forests.
- Restricts access to bushland and waterways.

How does it spread?

- Lantana reproduces by seed and vegetatively.
- A single plant can produce up to 12,000 fruit (and seeds) in a year.
- Seeds are mainly dispersed by birds and some animals that eat the fruit, with Lantana more likely to germinate after being passed through the gut of a bird of mammal.
- Seeds and plant fragments can also disperse through water, in soil, on machinery and from the dumping of garden waste.

Control

Physical removal, pasture management, biological and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Close-up pink flowered Lantana with spearhead shaped green leaves.


Both mature and immature Lantana fruits.


Pink edged red flowered Lantana with light green leaves.


Lantana invading a coastal eucalypt plantation.


Yellow hybrid Lantana flowers and spearhead shaped dark green leaves.

Lippia *(Phyla canescens)*

Species of Concern *(RLLS)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Greyish-green in colour. - Covered in tiny hairs. - Occur in pairs along the stem. - 2-5 cm long.	- Lilac or pinkish in colour. - Occurs in dense, rounded clusters. - 5-10 mm in diameter. - Flowers spring-autumn.	- Produces fruit & seed all year round.	**Stems:** - Several branched stems. - Ground dwelling. - Grows up to 1 m long. **Roots:** **Main root:** - 80c m long. **Secondary roots:** - Form solid, mat-like ground cover. - Fibrous. - Can develop along the stem.

How does this weed affect you?

- Unpalatable to livestock.
- Increases soil erosion and decreases stream bank stability in inland river systems and floodplains.
- Outcompetes pastures and native ground cover.

How does it spread?

- Lippia reproduces by seed and vegetatively.
- Plant fragments disperse during flooding.
- Plant fragments and seeds can also disperse via vehicles, equipment, animals and contaminated soil.

Control

Pasture management, biological and chemical control.


Lippia flowers close-up.


Lippia in flower - Tim Moodie.


Lippia infestation - Tim Moodie.


Lippia flowers.


Lippia has the ability to root at nodes along the stems.


Lippia forms a solid mat-like groundcover.

Herbaceous

Madeira vine *(Anredera cordifolia)*

Asset Protection **WoNS**

Common Name(s): Lamb's tail

What does it look like?

Leaves	Flowers	Stems
- Green in colour. - Fleshy and heart-shaped. - Hairless and glossy in appearance. - Alternately arranged along the stem. - 2-15 cm long.	- White-cream in colour. - Occur in 30 cm long clusters. - Clusters resemble a lamb's tail. - Fragrant.	- Green or reddish in colour. - Hairless. - Grow in a winding fashion. - Light brown-green bulb-like tubers are produced along the stem.

How does this weed affect you?

- Forms a dense mat of vines that blanket and smother both shrubs and trees.
- The weight of the vine can cause smaller trees to collapse and die.

How does it spread?

- Madeira vine reproduces through the production of thousands of bulb-like tubers along stems and underground.
- Tubers disperse by falling to the ground as vines age, and remain viable for many years.

Control

Physical removal, biological and chemical control.


Flowering Madeira vine.


Heart-shaped leaves of Madeira vine.


Madeira vine sprouting from tubers.


Madeira vine infestation.


Madeira vine aerial tubers.


Close up of Madeira vine tuber.

Miconia *(Miconia species)*

Prevention **PM**

Common Name(s): Velvet tree

What does it look like?

Leaves	Flowers	Fruits/Seeds
- Distinctly dark green on top. - Purple-blue on the underside. - 3 light, prominent veins on the upper surface. - Young stems and leaves have velvety hairs. - Up to 1 m long (usually 60-70 cm).	- White to pink in colour. - Sweet-scented. - Die 12-24 hours after flowering.	- Fruits are dark purple in colour. - 1 cm in diameter. - Each fruit contains between 50 and 200 tiny seeds that are about 0.5 mm in diameter.

How does this weed affect you?

- Forms dense thickets in the understorey that is extremely effective at completely replacing all native vegetation.

How does it spread?

- Miconia reproduces entirely by seed.
- Mature trees can flower and fruit three times a year producing up to 5 million seeds.
- Seeds mainly disperse via birds and small animals.
- Seeds can also attach via mud on shoes, clothing and machinery.

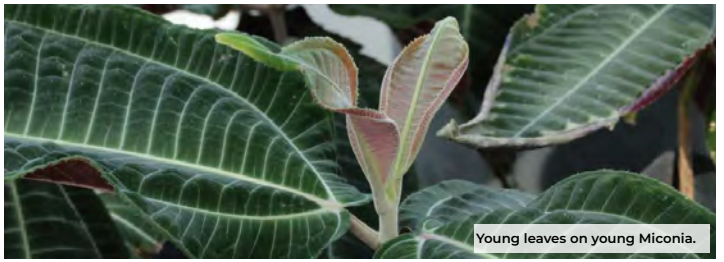
Control

Control needs to be carried out careful to prevent the re establishment of massive numbers of seedlings within the soil seed bank. *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Small purple hairs on upper surface of young Miconia.


Dark purple-red colouring on underside of young Miconia.


Miconia leaves showing prominent veins and purple underside.


Young leaves on young Miconia.


3 Prominent white veins on upper surface of young Miconia.

Herbaceous

Mikania vine *(Mikania micrantha)*

Prevention PM

Common Name(s): Mile-a-minute, climbing hempvine, bitter vine

What does it look like?

Leaves	Flowers	Seeds	Stems
- Green in colour. - Heart-shaped, tapering to a sharp point. - Occur in opposite pairs along the stem. - 4–13 cm long and 2–9 cm wide.	- Whitish in colour. - Occur in a flat-topped cluster. - Each flower head is 4.5–6 mm long.	- Black in colour. - Thin and flattened. - Each seed has a 'parachute-like' tuft of fine, whitish bristles that are 2–3 mm long. - Seeds are 1.5–2 mm long.	- Greenish-brown in colour. - Slender and ribbed with fine white hairs (some stems may be hairless). - Creeping vine. - Many horizontal stems branch off the main stem. - Can grow up to 20 m tall when supported by other vegetation.

How does this weed affect you?

- Forms a dense mat of vines that smother native vegetation, crops, forests and infrastructure.
- Is known as 'mile-a-minute' due to its rapid growth rate.
- Is a serious threat to the biodiversity of tropical and sub-tropical forest ecosystems.
- Produces chemicals that supresses the growth of nearby plants.

How does it spread?

- Mikania vine reproduces by seed and vegetatively.
- Each plant can produce around 40,000 seeds per year.
- The parachute-like' tuft on seeds aid wind dispersal.
- Seeds and plant fragments can also be dispersed via animals, water and machinery.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Mikania flowers close-up.


Mikania leaves occur in opposite pairs.


Mikania leaves and flowers.


Mikania smothering existing vegetation.


Mikania leaves and flowers.

Herbaceous

Mother-of-millions *(Bryophyllum species)*

Eradication *(RLLS)*

Common Name(s): Chandelier plant

What does it look like?

Leaves	Flowers	Plantlets/Seeds	Stems
- Drooping **B. delagoense:** - Pale green- pale brown in colour, with dark green patches. - Pencil-shaped. - Fleshy, succulent. - Shallow groove on the upper surface. **B. daigremontianum x B. delagoense:** - Grey-green to grey in colour. - Distinctively boat-shaped. - Fleshy, succulent. - With notches along the edges. **B. pinnatum:** - Dull blue-green in colour. - Fleshy, succulent. - With up to 5 oval leaflets per leaf. - Wavy edges.	**B. delagoense:** - Orange-red in colour. - Occur in a cluster at the top of a single stem. - Flowers from May-October. **B. daigremontianum x B. delagoense:** - Orange-red in colour. - Occur in a cluster at the top of a single stem. - Flowers from May-October. **B. pinnatum:** - Reddish colour often tinged with pink. - Occur in loose clusters growing along the upper portion of the stem. - Flowers from June-August.	- Can reproduce by seeds held in a papery fruit. - Many plantlets (sub-plants) develop along the edge of the leaves, giving the plant its name.	- Greyish or pink-grey. - Fleshy, succulent. - Erect. **B. delagoense:** - About 30-100 cm tall. **B. daigremontianum x B. delagoense:** - About 30-100 cm tall. **B. pinnatum:** - About 60-200 cm tall.

How does this weed affect you?

- Mother of millions*(B. delagoense)*, hybrid mother of millions *(B. daigremontianum x B. delagoense)* and resurrection plant *(B. pinnatum)* are all poisonous when ingested by humans, livestock and pets; causing heart failure and death.
- Replaces native and pastoral grasses and legumes.
- Significantly reduces the productivity of pastures and stock access to waterways.

How does it spread?

- Mother-of-millions reproduces by seed and vegetatively.
- Large numbers of plantlets along the edges of its leaves detach and form daughter plants.
- Seeds and plantlets can be dispersed via dumping of garden waste.

Control

Pasture management, physical removal, biological and chemical control.


Mother-of-millions flower head.


Close up of leaflets.


Mother-of-millions infestation.


Leaflets.

Herbaceous

Noogoora burr *(Xanthium occidentale)*

Common Name(s): Rough cockleburr, common cocklebur, large cocklebur

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Dark green with purplish veins. - Egg to heart-shaped. - Slightly lobed with serrated edges. - Covered in small hairs giving them a very rough texture. - Upper leaves are alternately arranged and the lower leaves are oppositley arranged. - 4-20 cm long and 3-18 cm wide.	**Flowers:** - Greenish to yellow in colour. - Flowers summer-autumn. **Male:** - Occur in clusters at the tips of branches. **Female:** - Occur in small clusters at the base of the upper leaf forks OR below the male flower clusters.	**Fruits:** - Burrs are green when young, turning a yellow-straw colour, eventually browning with maturity. - Round to oval-shaped burr containing 2 seeds. - Covered in numerous hooked spines, with 2 prominent, straight spines at the top of the burr. - 16-22 mm long. - Fruit are formed late summer-autumn. **Seeds:** - Brown or black in colour. - Flattened on one side. - 1 of each pair of seeds is larger than the other. - 4-15 mm long and 5-7 mm wide.	- Green in colour with purplish blotches or stripes. - Very hairy and rough in texture. - Erect and highly branched. - Grows up to 2 m tall and can spread along the ground.

How does this weed affect you?

- Burrs can cling to livestock, making handling difficult and injuring people and livestock.
- Burrs contaminate wool adding a substantial processing cost to remove.
- Reduces wool and grain value due to 'vegetable fault'.
- Significant weed that reduces productivity of summer crops and pastures.
- Can create barriers for livestock and people around water courses and irrigation areas.

How does it spread?

- Noogoora burr reproduces entirely by the seeds within the burrs.
- Burrs can attach to livestock, clothing and vehicles.
- Burrs are also dispersed through water or contamination of agricultural produce.

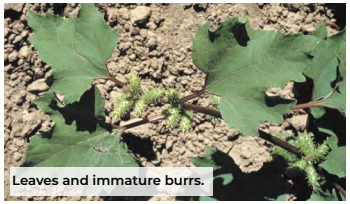
Similar looking plants

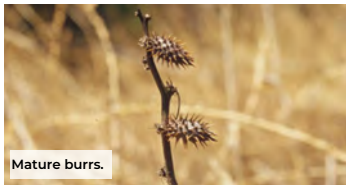
Noogoora burr is similar in appearance to Californian burr *(Xanthium orientale)*, Bathurst burr *(Xanthium spinosum)* (Pg. 59) and Common thornapple *(Datura stramonium)*. All *Datura spp.* are poisonous.
See https://weeds.dpi.nsw.gov.au/Weeds/NoogooraBurr for distinguishing features of each species.

Control

Physical removal, biological and chemical control.


Comparison of Xanthium burrs, from left to right: Bathurst burr, Noogoora burr, Californian burr, Italian cockleburr and South American burr.


Leaves and immature burrs.


Mature burrs.


Whole Noogoora burr plant.

Onopordum thistle spp.

Illyrian *(Onopordum illyricum)* **Scotch** *(Onopordum acanthium)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Blue-green in colour. - Covered in white cottony hairs giving them a silvery appearance. - Lance-shaped with irregular lobing. - Toothed edges with many spines. - Spines can be up to 10 mm long. - Forms a rosette at the base of the plant. - Stem-leaves are alternately arranged and become smaller and more narrow towards the top of the plant.	- Purple in colour. - Occur either solitary or in clusters of 2-3 at the tip of the stems. - Flowers from December-February. ***O. illyricum:*** - Many broad purple coloured scales surround the flowerhead. - Scales have outward and downward pointing spines. ***O. acanthium:*** - Many thin yellow to green coloured scales surround the flowerhead. - Scales have upward pointing spines.	- Grey in colour with dark speckles. - Wrinkled. - Topped with toothed, whitish coloured hairs. - Hairs are 5-10 mm long. - Seeds are 4-5 mm long.	- Blue-green in colour. - Covered in white cottony hairs giving them a silvery appearance. - Has a single main stem that extensively branches in its uppper parts. - Broadly-winged with many spines. - Grows up to 2 m tall.

How does this weed affect you?

- Thistles can cause injuries to livestock and humans handling the livestock or fleece.
- Thistles compete with pastural plants and reduce carrying capacity.
- Leaves smother desirable vegetation, hindering growth.
- Dense clusters of mature thistles restrict livestock movement.
- Reduces the value of wool by 'vegetable fault'.
- Can reduce property value.

How does it spread?

- Onopordum thistle species reproduce via seed and vegetatively.
- Seeds attach to livestock and clothing and often disperse in hay or vehicles and equipment.
- *O. illyricum* is well suited to wind and water disperal, whereas *O. acanthium* does not tend to be dispersed by wind or water.
- Root fragments may disperse when dislodged by agricultural equipment, but will only survive if the ground is moist and soft.

Control

Pasture management, physical removal, biological and chemical control.


Illyrian thistle flowerhead.


Scotch thistle flowerhead.


Illyrian thistle seedlings.


Scotch thistle seedlings.

Ox-eye daisy *(Leucanthemum vulgare)*

Containment

Common Name(s): Dog daisy, field daisy, Marguerite, moon-daisy, moon penny, poverty weed

What does it look like?

Leaves	Flowers	Stems/Roots
- Green in colour. - Irregularly toothed. - Hairless to slightly hairy. - 4-15 cm long and up to 5 cm wide. - Forms a rosette at the base of the plant. - Stem-leaves are alternately arranged and become smaller and more narrow towards the top of the plant.	- White petals with a bright yellow centre. - 15-40 petals per flower. - Occur in solitude at the tips of stems. - 2-6 cm wide. - Flowers between September and December.	- Green and erect. - Range from hairless at the top of the stem to hairy at the base. - Grows between 30 cm and 1 m tall. - Creeping underground stems are present.

How does this weed affect you?

- Replaces native and pastoral plants.
- Unpalatable to livestock and reduces the quality of pasture for grazing.

How does it spread?

- Ox-eye daisy reproduces by seed, producing 26,000 seeds per plant.
- Can also reproduce through underground stem fragments, which disperse through soil movement and machinery.
- Seeds can disperse through water, animals, vehicles and contaminated produce.

Control

Chemical control.


Ox-eye daisy flowers close-up.


Ox-eye daisy rosette.


Ox-eye daisy flowers.


Ox-eye daisy infestation.


Ox-eye daisy whole plant.

Parthenium weed *(Parthenium hysterophorus)*

Prevention WoNS PM

Common Name(s): Bitter weed, false ragweed, carrot grass

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Pale green in colour. - Covered with soft, fine hairs. - Lower leaves are 5-20 cm long. - Forms a rosette of deeply lobed leaves at the base of the plant. - Stem-leaves are alternately arranged and become smaller and less lobed towards the top of the plant.	- Creamy-white in colour. - Star-like with 5 'points'. - Located at stem tips in clusters. - 4–6 mm in diameter.	- Dark brown–black in colour. - Flattened. - Triangular with 2 thin, white, spoon-shaped appendages. - 1–2 mm across.	**Stems:** - Pale green and erect. - Grooved or ribbed, making stems look striped. - Become woody with maturity. - Highly branched. - Grows between 0.5-2 m tall. **Roots:** - Has one deep, thick main root. - Fibrous roots branching from the main root.

How does this weed affect you?

- Toxic when touched or inhaled by humans, or eaten by livestock; causing a range of health issues and death.
- Produces chemicals that inhibit the growth of nearby plants.
- Parthenium weed is unpalatable to stock and outcompetes pastoral plants, reducing the productivity of pastures.
- Reduces crop yields and competes with crop seedlings such as sunflowers and sorghum.

How does it spread?

- Parthenium weed reproduces entirely by seed.
- Each plant produces up to 15,000 seeds each year, and these seeds can remain dormant for years.
- Seeds are dispersed through harvesting machinery, vehicles, and contaminated hay, grain and soil.
- Seeds can also be dispersed by animals and floodwaters.

Similar looking plants

Parthenium weed looks similar to many other plants, including Annual ragweed *(Ambrosia artemisiifolia)*, Greater beggar's ticks *(Bidens subalternans)*, Bishop's weed *(Ammi majus)*, Hemlock *(Conium maculatum)* and Fleabane *(Conyza spp)*. See: https://weeds.dpi.nsw.gov.au/Weeds/PartheniumWeed for distinguishing features.

Control

Never touch the plant with bare hands. Use a dust mask if working near the weed.

Biological and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Parthenium weed flowers have five points.


Parthenium weed plants can flower when they are only 4 weeks old.


Parthenium weed at 6 leaf stage.


Flowering Parthenium weed.

Herbaceous

Prevention

Paterson's curse *(Echium plantagineum)*

Common Name(s): Salvation Jane

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Light green in colour. - Egg-shaped with stalks and branched veins. - Hairy. - Forms a rosette at the base of the plant. **Stem-leaves:** - Almost clasp to the stem. - Alternate along the stem.	- Mostly purple, but can be white, pink or blue in colour. - 5 fused petals per flower. - Trumpet-shaped and slightly curved. - 2-3 cm long - Flowers from September-December.	- Dark-brown to grey in colour. - Rough seed coat. - Contains up to 4 seeds per flower.	**Stems:** - Erect and hairy. - Branched, with many stems coming from the base of the plant. - Can grow up to 1.5 m tall. **Roots:** - Has a thick main root, with many horizontal smaller roots.

How does this weed affect you?

- Can cause irritation to humans via skin and inhaling the pollen.
- Is toxic to livestock.
- Reduces pasture productivity.
- Devalues hay and grain infested with it.
- Crowds out and suppresses native vegetation, degrading natural habitats.

How does it spread?

- Paterson's curse reproduces entirely by seed.
- Seeds are mainly dispersed by contaminated hay and grains, livestock, vehicles and machinery.

Control

Biological, physical removal and chemical control.
Contact your local council for accurate identification and advice on biological control options for your situation.


Paterson's curse flowers.


Paterson's curse rosette. Note leaf shape and distinct branched veins.


Paterson's curse can dominate pastures.


Paterson's curse plant flowering - Caitlin Lawrence.


Biocontrol damage to crown of Paterson's curse.

Herbaceous

Prickly pears - Austrocylindropuntias

Asset Protection

WoNS

(Austrocylindropuntia cylindrica) (Austrocylindropuntia subulata)

Common Name(s): ***A. cylindrica:*** *Cane cactus, coral cactus* ***A. subulata:*** Eve's needle cactus

What does it look like? (Images on next page)

Leaves	Flowers	Fruits	Spines	Stems/Roots
A. cylindrica: - Up to 1 cm long. - Short-lived. ***A. subulata:*** - Green in colour. - Thin and pointy. - Up to 12 cm long. - Short-lived but last longer on the stems than *A. cylindrica.*	***A. cylindrica:*** - Pink-red and cup-shaped. - 2.5 cm wide and up to 6 cm long. ***A. subulata:*** - Pink and cup-shaped.	***A. cylindrica:*** - Deep green to green-yellow in colour. - Egg-shaped. - Up to 4.5 cm long. ***A. subulata:*** - Green in colour. - Oblong to egg-shaped. - Can grow in chains. - Up to 10 cm long.	***A. cylindrica:*** - White in colour. - About 1 cm long. ***A. subulata:*** - Grey to white in colour. - Can occur solitary, or in clusters of up to 4.	***A. cylindrica:*** **Stems:** - Dark blueish-green in colour. - Cylinder-shaped. - Fleshy, shiny and branched. - 15-50 cm long and 3-4 cm in diameter. - Grows up to 1.5 m tall. **Roots:** - Fibrous and shallow. ***A. subulata:*** **Stems:** - Green in colour. - Cylinder-shaped. - Fleshy, spiny and branched. - Up to 50 cm long and 4-5 cm in diameter. - Grows up to 3 m tall and several meters wide. **Roots:** - Fibrous and shallow.

How does this weed affect you?

- Their spines can:
  - Cause painful injuries to people, livestock and pets.
  - Injure and kill wildlife that get trapped.
  - Devalue wool and hides and prevent shearing.
  - Get stuck around the mouths of lambs or calves and prevent them from feeding.
- *Austrocylindropuntia spp.* can exclude the growth of native plants.
- They can form dense clusters that can prevent movement of animals and humans, restricting access to water points and recreational activities.

How does it spread?

- Plants can reproduce from stems, fruit and flowers.
- Plant fragments, fruit and flowers can be dispersed by attaching to animals, humans, vehicles and equipment.
- Plants can also be dispersed via water and *A. cylindrica* can be dispersed by wind.

Similar looking plants

Austrocylindropuntia spp. differ from *Cylindropuntia spp.* by lacking papery covers on their spines.
See next profile for distinguishing features.

Control

Physical removal and chemical control - *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*

Herbaceous

Prickly pears - Austrocylindropuntias

Asset Protection

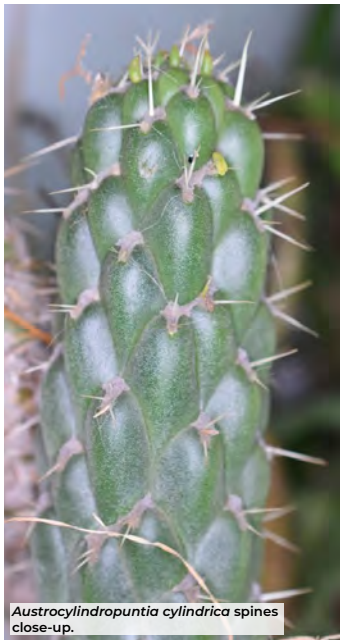
WoNS

(Austrocylindropuntia cylindrica) (Austrocylindropuntia subulata)

Common Name(s): ***A. cylindrica:*** *Cane cactus, coral cactus* ***A. subulata:*** Eve's needle cactus

Austrocylindropuntia subulata flower close-up.

Austrocylindropuntia cylindrica flowers and stems.



Austrocylindropuntia cylindrica spines close-up.

Austrocylindropuntia cylindrica close-up with flower buds.

Austrocylindropuntia subulata infestation.

Austrocylindropuntia subulata close-up.

Austrocylindropuntia cylindrica whole plant.

Austrocylindropuntia subulata whole plant.

Herbaceous

Prickly pears - Cylindropuntias

Asset Protection WoNS

(Cylindropuntia fulgida) (Cylindropuntia imbricata) (Cylindropuntia pallida)

Common Name(s): ***C. fulgida:*** Boxing glove cactus ***C. imbricata:*** Rope pear ***C. pallida:*** Hudson pear

What does it look like? (Images on next page)

Flowers	Fruits/Seeds	Spines	Stems/Roots
C. fulgida: - White and pink in colour, with light purple streaks. - Up to 2.5 cm in diameter. ***C. imbricata:*** - Dark pink to purpley-red in colour. - Cup-shaped. - Occurs near the end of the stems. - 4.9 cm in diameter and up to 6 cm long. ***C. pallida:*** - Pink with a golden centre. - 5 cm in diameter.	- Egg-shaped ***C. fulgida:*** - Green in colour. - Wrinkly. - With spines. - 4 cm in long. - Can grow in chains. ***C. imbricata:*** **Fruits:** - Greenish-yellow in colour. - Spineless. - Up to 4 cm long. - Can grow in chains. **Seeds:** - Yellow to light brown in colour. - 2.5-4 mm long. ***C. pallida:*** - Has spines. - 2-4.5 cm long. - Never grows in chains.	-Have papery coverings. ***C. fulgida:*** - Silvery-yellow when young, darkening to grey with maturity. - Densly layered, obscuring the stems. - Grow in clusters of 6-12. - 2-3 cm long. ***C. imbricata:*** - White-cream in colour. - Occurs in clusters of 2-12. - 8-30 mm long. - Also has yellow barbed bristles that are 1 mm long. ***C. pallida:*** - Whitish in colour. - Occur in clusters of 4-8. - Up to 3.5 cm long. - Also has yellow barbed bristles.	***C. fulgida:*** - Green in colour. - Becomes rough and scaley with maturity. - Grows up to 3 m tall. ***C. imbricata:*** ***Stems:*** - Dull grey-green in colour. - Rope-like. - Lumpy and fleshy. - 15-40 cm long and 3-5 cm in diameter. - Grows up to 3 m tall. **Roots:** - Fibrous and shallow. ***C. pallida:*** - Green in colour. - Cylindrical in shape. - Up to 90 cm long and 4 cm in diameter. - Grows up to 1.5 tall and 3 m wide.

How does this weed affect you?

- Their spines can:
  - Cause painful injuries to people, livestock and pets.
  - Injure and kill wildlife that get trapped.
  - Devalue wool and hides and prevent shearing.
  - Get stuck around the mouths of lambs or calves and prevent them from feeding.
  - *C. pallida* has particularly vicious spines that can penetrate footwear and even vehicle tyres.
- *Cylindropuntia spp.* can exclude the growth of native plants.
- They can form dense clusters that can prevent movement of animals and humans, restricting access to water points and recreational activities.

How does it spread?

- Plants can reproduce from stems, fruit and flowers.
- Plant fragments, fruit and flowers can be dispersed by attaching to animals, humans, vehicles and equipment.
- *C. imbricata* produces fruit with viable seeds.
- These seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.

Similar looking plants

There are 30 cactus species that are considered weeds in Australia. See other Prickly pear profiles for distinguishing features.

Control

If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Herbaceous

Prickly pears - Cylindropuntias

Asset Protection WoNS

(Cylindropuntia fulgida) (Cylindropuntia imbricata) (Cylindropuntia pallida)

Common Name(s): ***C. fulgida:*** Boxing glove cactus ***C. imbricata:*** Rope pear ***C. pallida:*** Hudson pear

Cylindropuntia pallida close-up of flower and spines.

Cylindropuntia fulgida var. mamillata infestation.

Cylindropuntia fulgida var. mamillata whole plant fruiting.

Cylindropuntia imbricata stems and spines close-up.

Cylindropuntia imbricata flower close-up.

Cylindropuntia pallida whole plant.

Cylindropuntia imbricata whole plant.

Cylindropuntia pallida caught on a vehicle.

Prickly pears - Indian fig *(Opuntia ficus-indica)*

Species of Concern *(RLLS)*

Common Name(s): Spineless cactus

What does it look like?

Flowers	Fruits	Stems
- Yellow in colour. - Cup-shaped. - Flowers late-spring to summer.	- Yellow, orange red or purple in colour. - Egg-shapped with a flattened top.	- Bluish-green in colour. - Flat and oval-shaped. - Cactus grows up to 7 m tall. - No, or very few spines present.

How does this weed affect you?

- The Indian fig has never caused any problems to rural production.
- It spreads slowly and is easily eradicated.

How does it spread?

- Plants can reproduce from stems, fruit, flowers and seeds.
- Plant fragments, fruit, flowers and seeds can be dispersed by attaching to animals, humans, vehicles and equipment.
- These seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.
- It can also disperse from dumped garden waste.

Similar looking plants

There are 30 cactus species that are considered weeds in Australia. See other Prickly pear profiles for distinguishing features.

Control

Chemical control.

Indian fig flower close up.

Indian fig whole plant with fruit.

Row of Indian fig.

Indian fig fruit.

Herbaceous

Herbaceous

Prickly pears - Opuntias

Asset Protection **WoNS**

(Opuntia aurantiaca) (Opuntia monacantha)

Common Name(s): ***O. aurantiaca:*** Tiger pear ***O. monacantha:*** Smooth tree pear, drooping tree pear

What does it look like?

Leaves	Flowers	Fruits/Seeds	Spines	Stems
O. aurantiaca: - Small, cone-shaped structures. - Short-lived. ***O. monacantha:*** - Small, cone-shaped structures. - Short-lived.	***O. aurantiaca:*** - Yellow in colour. - Occur solitary on the top of the stems. - Flowers late-spring to summer. ***O. monacantha:*** - Yellow in colour with reddish markings. - Occur along the edges of the stems. - Flowers late-spring to autumn.	- Egg-shaped. ***O. aurantiaca:*** - Green when young, turning red-purple with maturity. - Spiny and fleshy. - 20-35 mm long. ***O. monacantha:*** **Fruits:** - Green when young, turning purple-red with maturity. - Spineless. - Have bristles on the fruit. **Seeds:** - Yellow-pale brown in colour. - Round. - 3-4 mm across.	***O. aurantiaca:*** - Grey to brown in colour. - Slightly barbed near the tip. - Very sharp. - Occur in clusters of 2-7. ***O. monacantha:*** - Brown to off-white in colour. - Occur in clusters of 1-2. - 2-4 cm long.	***O. aurantiaca:*** - Dark green to purple in colour. - With round-cylindrical segments. - Bumpy. - Grows up to 40 cm tall. ***O. monacantha:*** - Bright green in colour, with a single woody trunk at the base. - Highly branched. - Hairless and glossy. - Can droop at the top. - Grows up to 2 m tall.

How does this weed affect you?

- Their spines can:
  - Cause painful injuries to people, livestock and pets.
  - Injure and kill wildlife that get trapped.
  - Devalue wool and hides and prevent shearing.
  - Get stuck around the mouths of lambs or calves and prevent them from feeding.
- They can form dense clusters that can prevent movement of animals and humans, restricting access to water points and recreational activities.
- Dense clusters can make pastures useless for production.

How does it spread?

- Plants can reproduce from stems, fruit and flowers.
- Plant fragments, fruit and flowers can be dispersed by attaching to animals, humans, vehicles and equipment.
- *O. monacantha* produces fruit with viable seeds.
- These seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.

Similar looking plants

There are 30 cactus species that are considered weeds in Australia. See other Prickly pear profiles for distinguishing features.

Control

Biological and chemical control - *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*

Herbaceous

Prickly pears - Opuntias

Asset Protection WoNS

(Opuntia aurantiaca) (Opuntia monacantha)

Common Name(s): O. aurantiaca: Tiger pear O. monacantha: Smooth tree pear, drooping tree pear

Opuntia monacantha flowering.

Opuntia aurantiaca whole plant.

Opuntia monacantha in flower climbing on casuarina trees.

Opuntia aurantiaca closeup of spines.

Opuntia monacantha flowers and fruit.

Opuntia monacantha close-up of spines and cladodes.

Opuntia aurantiaca with damage by biocontrol agents.

Opuntia monacantha with flowers and fruit.

Herbaceous

Prickly pears - Opuntias

Asset Protection WoNS

(Opuntia stricta) (Opuntia tomentosa)

Common Name(s): *O. stricta:* Common prickly pear ***O. tomentosa:*** Velvety tree pear

What does it look like?

Leaves	Flowers	Fruits/Seeds	Spines	Stems/Roots
O. stricta: - Small, cone-shaped structures. - Short-lived. ***O. tomentosa:*** - Small, cone-shaped structures. - Hairy. - Short-lived.	- Occur in solitary along edges of the stems. - Flowers spring-summer. ***O. stricta:*** - Yellow in colour. - 6-8 cm in diameter and 7 cm long. ***O. tomentosa:*** - Orange with reddish and yellow markings. - 4-5 cm in diameter.	- Green in colour when young, turning red-purple with maturity. - Egg-shaped. ***O. stricta:*** **Fruits:** - Have bristles on the fruit. **Seeds:** - Yellow-pale brown in colour. - Round. ***O. tomentosa:*** **Fruits:** - Covered in fine hairs. - Have bristles on the fruit. **Seeds:** - Pale brown in colour. - Round. - 3-5 mm in diameter.	***O. stricta:*** - Occur in clusters of 1-2. - 2-4 cm long. - May not always have spines. ***O. tomentosa:*** - Usually spineless, younger plants may have clusters of 1-2 grey spines.	***O. stricta:*** - Green to blue-green in colour. - Highly branched. - Made of flat segments. - 10-35 cm long, 7-20 cm wide and 10-20 mm thick. - Grows up to 2 m tall. ***O. tomentosa:*** - Dull green in colour. - Tree-like with a woody trunk. - Highly branched. - Made of flat segments. - Velvety and has clusters of fine yellow bristles. - 15-35 cm long, 6-16 cm wide and 15-20 mm thick. - Grows up to 6 m tall.

How does this weed affect you?

- They can form dense clusters that can prevent movement of animals and humans, restricting access to water points and recreational activities.
- *O. stricta* has infested over 23 million hectares in NSW and QLD. Half of the infested area was so densly covered it was useless for production and abandoned by its owners.
- Large stands of these species can provide shelter for pest animals.

How does it spread?

- Plants can reproduce from stems, fruit, flowers and seeds.
- Plant fragments, fruit, flowers and seeds can be dispersed by attaching to animals, humans, vehicles and equipment.
- These seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.
- *O. stricta* can also disperse from dumped garden waste.

Similar looking plants

There are 30 cactus species that are considered weeds in Australia. See other Prickly pear profiles for distinguishing features.

Control

Biological and chemical control - *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*

Prickly pears - Opuntias

Asset Protection WoNS

(Opuntia stricta) (Opuntia tomentosa)

Common Name(s): *O. stricta:* Common prickly pear ***O. tomentosa:*** Velvety tree pear

Opuntia stricta flower close-up.

Opuntia stricta fruit close-up.

Opuntia tormentosa infestation.

Juvenile *Opuntia tormentosa* plants.

Opuntia tormentosa whole plant.

Opuntia tormentosa flowers close-up.

Opuntia stricta whole plant with flowers and fruit.

Herbaceous

Ragwort *(Senecio jacobaea)*

Eradication *(RLLS)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Dark green in colour. - Paler with distinct veins on the underside. - Hairless on the top, covered in cobweb-like hairs on the underside. - Irregularly lobed and deeply wrinkled. - Forms a rosette at the base of the plant. - Leaves on the stem are smaller and occur in opposite pairs. - Up to 35 cm long.	- Bright yellow in colour. - 12-15 petals per flowers. - Petals are oval-shaped. - 20-25 mm in diameter.	- Brown in colour. - Topped with fine whitish hairs. - Some are smooth and hairless, but majority are covered in fine hairs or bristles. - Hairs are 4-6 mm long. - Seeds are 1-3 mm long.	- Can be red to purple when young, turning dark green with maturity. - One or more erect stems per plant. - Ribbed and hairy. - Highly branched towards the top of the plant. - Grows up to 1.5 m tall.

How does this weed affect you?

- The entire Ragwort plant, including its pollen when inhaled, is toxic to humans and livestock; tainting milk and causing death.
- Outcompetes pastural and native vegetation.
- Reduces livestock carrying capacity and pasture yield.

Close up of Ragwort flower.

How does it spread?

- Ragwort reproduces by seed and vegetatively.
- Seeds disperse using their hairs and bristles to attach to animals, vehicles, humans and agricultural equipment.
- The hairs also help them disperse by wind and water and they can disperse through contaminated agricultural produce.
- Root fragments can be dislodged by agricultural equipment and then disperse via vehicles and water.

Whole Ragwort plant.

Similar looking plants

It is important to accurately identify Ragwort; as it can be confused with other native and introduced herbaceous species.
See https://weeds.dpi.nsw.gov.au/Weeds/Ragwort for distuingishing features. *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*

Control

Chemical control.

Ragwort leaves and stems close up.

Hairy seeds of Ragwort.

Silverleaf nightshade *(Solanum elaeagnifolium)*

Species of Concern **WoNS**

Common Name(s): Silverleaf nettle

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Silvery-green on top, paler on the underside. - Sometimes have brown-yellow spines on the underside. - Wavy edges. - Alternate along the stem. - 5–10 cm long.	- Purple or white in colour. - 5 overlapping petals per flower. - Star-shaped when open. - Up to 25 mm in diamater. - Flowers summer-autumn.	- Fruits are round and smooth berries. - Green striped when young. - Turning yellow-orange with maturity. - Up to 1 cm in diamater. - Plants can produce up to 60 berries. - Each berry contains 10–210 seeds.	**Stems:** - Silvery-green in colour. - Erect and branching. - Covered in spines that are about 5 mm long. - Spines are red-brown to yellow in colour. - Grows up to 60 cm tall. **Roots:** - Deep and branching - Growing between 2–5 m long.

How does this weed affect you?

- Ripe fruit can potentially poison livestock when ingested.
- Halves summer crop yields through direct competition.
- Reduces winter crop yields by depleting soil moisture.
- Invades pastures and reduces growth of flora.

Close-up of flower.

How does it spread?

- The climate affects how Silverleaf nightshade reproduces.
- In tropical areas it disperses by seed and root fragments.
- In moderate areas it tends to disperse more from root fragments.
- Seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.
- Plant fragments can disperse via cultivation, contaminated soil or dumped garden waste.
- Seeds can also be dispersed via water and contaminated hay and grains.

Flowers, fruit, leaves and stems.

Similar looking plants

It is important to accurately identify Silverleaf nightshade, as it can be confused with other species of nightshade.
See https://weeds.dpi.nsw.gov.au/Weeds/Details/126 for distinguishing feautures.

Control

Pasture management and chemical control.

Comparison of young and mature berries.

Silverleaf nightshade infestation - Tim Moodie.

Stems are covered in sharp red spines.

Spiny emex *(Emex australis* Steinh.*)*

Species of Concern

Common Name(s): Cathead, doublegee, prickly jacks, three cornered jack, cape spinach

What does it look like?

Leaves	Fruits/Seeds	Stems/Roots
- Green in colour. - Egg-shaped to heart shaped with a tapered tip. - Wavy edges. - Forms a rosette at the base of the plant. - Leaves on the stem are smaller and occur in opposite pairs. - 3-9 cm long and 1.5-7 cm wide.	- Fruit are burrs. - Green when young, becoming brown and woody with maturity. - Burrs occur in clusters in the fork of the leaf along the stem. - Have 3 rigid spines. - Each burr contains 1 seed.	**Stems:** - Erect and highly branched. - Ribbed. - Ground creeping. - 80 cm long and can grow up to 40 cm high. **Roots:** - Thick main root.

How does this weed affect you?

- Can poison livestock.
- Can injure animals and people.
- Competes with cereal crops and legumes.
- Reduces yield of pastures.

Close up of Spiny emex stem.

How does it spread?

- Spiny emex reproduces by the seed within burrs.
- Burrs attach to shoes, tyres, and the feet of animals.
- Burrs can float and disperse via waterways and flood waters.
- Also disperses via contaminated produce, including lucern, hay, seed and feed wheat.

Spiny emex rosette.

Control

Biological and chemical control.

Spiny emex plant.

Close up of Spiny emex leaves, stems and burr-like fruit.

Spiny emex fruit.

St. Barnaby's thistle *(Centaurea solstitialis)*

Species of Concern

Common Name(s): Yellow star weed, yellow centaurea, golden star thistle

What does it look like?

Leaves	Flowers	Seeds	Stems
- Green in colour. - Covered in soft, white hairs giving a silvery appearance. - Vary in shape, can be lobed or smooth-edged. - Smaller towards the tip of the stem.	- Flower head is yellow in colour. - Occur in solitary on the tip of stems. - Surrounded by modified green leaves giving it a small, pinecone-like appearance. - Several yellow spines occur on the modified leaves. - Spines can be up to 2.5 cm long. - Flower heads can be up to 15 mm in diameter.	**Outer seeds:** - Dark brown to blackish in colour. - Speckled. - No bristles. - 3-4 mm long. **Inner seeds:** - Grey to light brown in colour. - Glossy. - Have white bristles on the tip. - Bristles are 2-5 mm long. - Seeds are 2-3 mm long.	**Stems:** - Covered in soft white hairs. - Erect and heavily branched. - Grows up to 75 cm tall.

How does this weed affect you?

- Hard spines can injure humans and fauna, particularly around the eyes, mouth and feet.
- Unpalatable to livestock.
- Forms dense clusters that can restrict stock movement.
- Outcompetes crops and pastures.
- Produces chemicals that supresses the growth of nearby plants.
- Reduces yield of pastures.

Flower head with spines.

How does it spread?

- Reproduces entirely by seed.
- Seeds can be dispersed by water, wind or from agricultural vehicles, equipment, and contaminated produce.
- Some seeds have bristles that further aid wind dispersal.

St. Barnaby's thistle seedlings.

Similar looking plants

It is important to accurately identify St. Barnaby's thistle; as it can be confused with other species of thistle.
If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Control

Chemical control.

Whole plant.

Flowers occur at the tips of stems.

Whole plant.

St. John's wort *(Hypericum perforatum)*

Species of Concern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Green in colour, paler on the underside. - Egg-shaped with a tapered tip. - Dotted with black and translucent glands. - Arranged in opposite pairs along the stems.	- Bright yellow in colour, with small black dots around the edges of petals. - 5 petals per flower. - Occur in small clusters at the tips of the stems. - Flowers October-January.	**Fruits:** - Are sticky capsules with 3 compartments. - Green when young, turning red-brown with maturity. - Capsules split open at the tip to shed seeds. - 8 mm long. **Seeds:** - Light brown to black in colour. - Bean-shaped and bumpy. - Small and sticky. - Up to 1 mm long.	- Grows up to 1 m tall. **Stems:** **Non-flowering:** - Green in colour. - Spread from the base as a ground cover. - Can form tangled mats. **Flowering:** - Erect. - Woody with a reddish tinge. - Branch near the tip. - 2 ridges that run opposite along the length of the stem. **Roots:** - Vertical roots grow to about 1 m deep into the soil. - Creeping, horizontal roots that produce new plants.

How does this weed affect you?

- Poisonous to livestock, causing a range of illnesses, stillbirths or death.
- Competes with pasture plants.
- Reduces pasture yield and property value.
- Reduces the value of wool with 'vegetable fault'.

How does it spread?

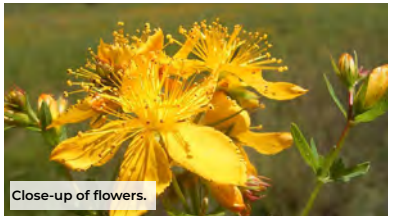
- St. John's Wort reproduces by seed and vegetatively.
- Seed disperses via contaminated agricultural produce, vehicles, equipment, water and mud attached to animals.
- Root fragments are dispersed by agricultural vehicles and equipment.

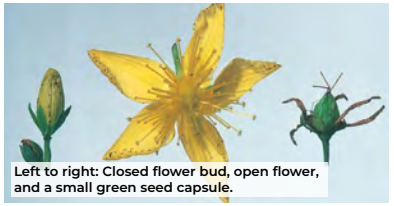
Similar looking plants

St. John's wort is similar in appearance to Tangled hypericum *(Hypericum triquetrifolium)*. See https://weeds.dpi.nsw.gov.au/Weeds/StJohnsWort for distinguishing features.

Control

Pasture management, physical removal, biological and chemical control.

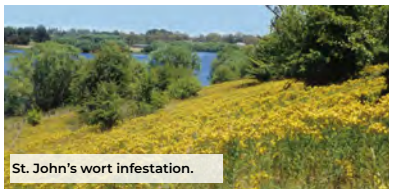

Close-up of flowers.


Left to right: Closed flower bud, open flower, and a small green seed capsule.


St. John's wort roots.


Flowers.


St. John's wort flower close-up.


St. John's wort infestation.

Star thistle *(Centaurea calcitrapa)*

Species of Concern *(MLLS)*

What does it look like?

Leaves	Flowers	Seeds	Stems
- Dark green in colour. - Extremely narrow and deeply lobed. - Covered in hairs. - Grow directly from the base of stems in the form of a rosette. - Up to 25 cm long and 5 cm wide.	- Pink-purple in colour. - Surrounded by many whitish-yellow spines. - Spines are about 1–3 cm long. - Occur in solitary at the tips of branches, or at the forks of leaves. - Flower heads are 10–20 mm long and 6–10 mm wide. - Flowers in late-spring to summer.	- Whitish in colour with dark stripes. - Oval-shaped. - Smooth. - 3–4 mm long and 2 mm wide.	**Stems:** - White to pale green in colour. - Hairy when young, less hairy with maturity. - Branched. - No spines. - Bushy. - Grows up to 1 m tall. **Roots:** - 1 large main root. - Fleshy. - 2-3 cm in diameter.

How does this weed affect you?

- Hard spines can injure humans and fauna, particularly around the eyes, mouth and feet.
- Forms a dense mat that overtakes desirable crop and pastures.
- Restricts stock movement.
- A serious threat to native biodiversity and can displace native plant species.

How does it spread?

- Star thistle reproduces entirely by seed.
- Each plant can produce about 1,000 seeds.
- Most seed fall close to the parent plant.
- Seed can then disperse further via water or attaching to to the wool and fur of animals
- Seeds can also be dispersed via contaminated hay or in mud attached to vehicles and equipment.

Similar looking plants

It is important to accurately identify Star thistle; as it can be confused with other weeds.
If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Control

Physical removal or chemical control.


Star thistle flower head.


Star thistle rosette.


Whole Star thistle plant.

Herbaceous

Tropical soda apple *(Solanum viarum)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Green with cream-coloured veins on both sides. - Densely covered in short hairs. - Large. - Irregularly lobed with curved edges, tapering at the tips. - Covered in pointy, cream-coloured spines. - Alternate along the stem. - 10–20 cm long and 6–15 cm in diameter.	- White in colour. - 5 petals per flower. - Petals curve down towards the stem. - Occur in clusters of 3–6 on the tips of the stems. - 1.5-2 cm in diameter.	**Fruits:** - Pale green with dark green veins when young. - Becoming yellow and golf ball-sized with maturity. - Flesh of the fruit is pale green and scented. - Between 2–3 cm in diameter. **Seeds:** - Pale brown in colour. - Tear-shaped. - Sticky.	**Stems:** - Green and can be woody. - Erect and branching. - Has thorn-like spines scattered along the stems, up to 12 mm long. - Grows up to 2 m tall. **Roots:** - Extensive root system. - Deep main root. - Creeping, horizontal roots that produce new plants.

How does this weed affect you?

- Foliage is unpalatable to livestock, reducing carrying capacity of pastures.
- Thorns reduce animals' access to shade and water.
- Is a host for diseases.
- Displaces native vegetation.


Flowers are white with 5 recurved petals.

How does it spread?

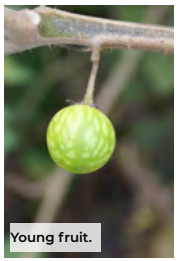
- Tropical soda apple reproduces by seed and vegetatively.
- Fruit are sweet and livestock and fauna will seek them out.
- Seeds can germinate when the fruit passes through an animal's gut and is then spread via droppings.
- Seeds are dispersed when the fruits float on water
- Seeds can also be dispersed through contaminated fodder, produce, soil and equipment.


Tropical soda apple leaf spines.

Control

Physical removal and chemical control - *If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Tropical soda apple seedling.


Young fruit.


Mature fruit, split open to reveal the seeds.


Whole tropical soda apple plant.

Herbaceous

Witchweed *(Striga spp.)*

Common Name(s): Parasitic witchweeds

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green in colour. - Long with tapered tips. - 6-40 mm long and 1-4 mm wide. - Reduced to scales for *Cow pea witchweed*.	- Can vary between red, pink, white, yellow orange or purple in colour. - 4-5 petals per flower. - Occur near the tips of the stem at the fork of the leaf. - 5-8 mm in diameter.	**Fruits:** - Green when young, turning brown with maturity. - Are capsules. - Each fruit capsule contains up to 500 seeds. - Up to 4 mm long and 2 mm wide. **Seeds:** - Brown in colour. - So small they look like dust.	- Can vary in colour when above ground. - Round and white when underground. - 4-sided and covered in short, hard hairs when above ground. - Usually singular stems that are not branched. - Usually 15-20 cm tall, but some are up to 60 cm.

How does this weed affect you?

- Witchweeds are parasitic plants that take nutrients from host plants, stunting or killing them.
- They can completely destroy maze, millet, rice, sugar-cane, sorghum and legume crops.
- Witchweeds usually can't be found in time to save the crop, as they cannot be seen until they emerge from the soil.
- Host plants are often stunted, with symptoms re-sembling severe drought stress, nutrient deficiency or disease.
- A key sign of Witchweed is a host plants leaves shrivel-ling and wilting, despite moist soil.


Flowers occur on the tips of stems.

How does it spread?

- Witchweed reproduces entirely by seed.
- Each plant can produce 50,000 tiny sticky seeds that are viable for over 10 years.
- Seeds can be easily dispersed by wind and water, attaching to the fur and hide of animals and contaminated crop seed or feed.
- Seeds can also be dispersed by livestock that eat the plant and disperse the seeds through their droppings.
- Seed disperses through contaminated soil, attaching to equipment, footwear and clothing.


Witchweed flowers.

Similar looking plants

All Striga species except for the native *Striga parviflora* are prohibited matter in NSW, this native species can still damage sugarcane and maze crops.
See https://weeds.dpi.nsw.gov.au/Weeds/Details/175 for more details.


Red Witchweed growing on sugar cane.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Red Witchweed flower close-up.

Herbaceous

African boxthorn *(Lycium ferocissimum)*

Species of Concern WoNS

Common Name(s): Boxthorn

What does it look like?

Leaves	Flowers	Fruits/Seeds	Branches/Roots
- Bright green in colour. - Tear drop-shaped. - Smooth and fleshy. - Occur in clusters along the branchlets. - 10-40 mm long. - Leaves can drop off plant, giving it a dead look, during droughts or winter.	- White to purple in colour. - Tubular at the base with purple or pale blue markings. - 5 petals per flower. - Fragrant. - Flowers spring-summer.	**Fruits:** - Round, green berries when young, turning orange-red with maturity. - 5–10 mm in diameter. **Seeds:** - Light brown-yellow in colour. - Irregularly-shaped. - Flattened and smooth with small raised dots. - 2.5 mm long and 1.5 mm wide. - Between 35-70 seeds in each berry.	**Branches:** - Rigid and very branched. - With thorns that are up to 15 cm long. - Grows up to 5 m tall and 3 m wide. **Roots:** - Main root is deep. - Extensively branched.

How does this weed affect you?

- African boxthorn is toxic to humans.
- Has large thorns that can injure livestock.
- Forms dense, spiny clusters that block access for vehicles and people.
- Prevents livestock from accessing shade.
- Provides shelter and food for pest animals.
- Competes with other vegetation.


Fruit and flower close-up.

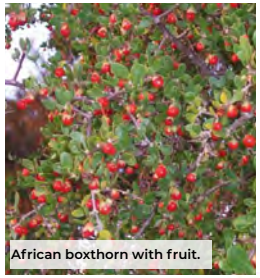
How does it spread?

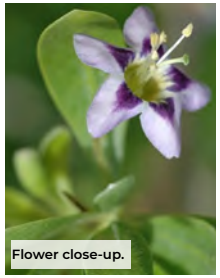
- African boxthorn reproduces after 2 years, by seed and root fragments.
- Birds and other animals eat the fruit and disperse the seeds via their droppings.
- Root fragments are also dispersed by agricultural vehicles and equipment.

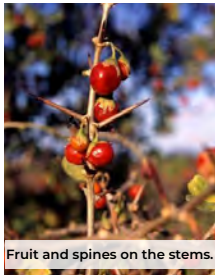

African boxthorn whole plant.

Control

Pasture management, physical removal and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


African boxthorn with fruit.


Flower close-up.


Fruit and spines on the stems.

Athel pine *(Tamarix aphylla)*

Species of Concern WoNS

Common Name(s): Athel tree

What does it look like?

Leaves	Flowers	Fruits/Seeds	Bark/Branches/Roots
- Dull green in colour. - Resembles pine tree needles. - Alternately arranged along the fine branches.	- Pink to white in colour. - Slightly conical in shape. - 5 petals per flower. - Occur on the tips of the branches. - Flowers during summer.	**Fruits:** - Pink to white in colour. - Bell-shaped capsules. - Have a tuft of white hairs on the end. - Each capsule contains numerous seeds. - 2-3 mm long. **Seeds:** - Cylindrical. - Have a tuft of white hairs on the end.	**Bark/Branches:** - Dark grey to grey-brown in colour. - Rough and wrinkled bark on the main trunk. - Younger stems are smooth, jointed and have a blue-green to grey-green appearance and droop. - Grows up to 15 m tall. **Roots:** - Strong and woody roots that penetrate and spread deeply in the soil.

How does this weed affect you?

- Excretes salt into the ground beneath it, which then excludes native pasture grasses and other salt sensistive plants.
- Forms dense clusters that reduce the quality of waterways by changing river flow patterns and causing flooding and erosion.
- Impacts on the cultural and aesthetic value of land and negatively impacts tourism and agricultural industries.


Salt cedar, is closely related to Athel pine and is similar in appearance.

How does it spread?

- Athel pine reproduces by seed and vegetatively.
- Seeds are dispersed by wind and water easily due to the hairy tuft on the fruits and seeds.
- Seeds may also be dispersed by animals.
- Root and stem fragments can disperse through agricultural practices.
- It can also create new plants through its horizontal root system near the parent plant.


Athel pine's needle-like leaves.

Similar looking plants

Athel pine resembles native she-oaks *(Casuarina)* and *(Allocasuarina spp.)*
See https://weeds.dpi.nsw.gov.au/Weeds/Details/13 for distinguishing features.

Control

Physical removal and chemical control.


Flowers and fruit.


Athel pine flowerbuds.


Drooping needles of Athel pine.

Bellyache bush *(Jatropha gossypiifolia)*

Common Name(s): Cotton-leaf jatropha, cotton-leaf physic nut

What does it look like?

Leaves	Flowers	Fruits/Seeds	Branches/Roots
- Purple and sticky when young, turning bright green with maturity. - Deeply lobed edges, covered in hairs. - Alternately arranged along the branches. - 5-14 cm long and 7-13 cm wide. - Leaves can drop off plant, giving it a dead look, during droughts or winter.	- Red-purple petals that have a yellow centre. - Occur in clusters of up to 60. - 6-9 mm in diameter. - Flowers from summer-autumn.	**Fruits:** - Glossy green when young, turning brown with maturity. - Are hairy capsules with 3 compartments. - Oblong. - Each compartment contains 1 seed. - Up to 1 cm long. **Seeds:** - Orange-brown to dark brown in colour. - Speckled - Egg-shaped. - 6-8 mm long and 4 mm wide.	**Branches:** - Purple and hairy when young, turning woody with maturity. - Thick and branched. - Older branches contain a watery or soapy sap. - Grows up to 4 m tall. **Roots:** - Fleshy and tuberous.

How does this weed affect you?

- Its seeds are highly toxic to livestock and humans, and it its sap can cause dermatitis.
- Competes with pastural and native vegetation.
- Reduces yield of pastures.
- Prevents regeneration of native vegetation.
- Reduces the biodiversity of native flora and fauna.

How does it spread?

- Bellyache bush reproduces by seed and its extensive root system.
- Long range dispersal of seeds mainly occurs via water and mud.
- Native meat ants also play an important role in the short range dispersal of its seeds.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Bellyache bush flowers and immature fruit.


Bellyache bush leaves.


Bellyache bush infestation.


Bellyache bush habit.


Bellyache bush stems & branches.

Bitou bush *(Chrysanthemoides monilifera subsp. rotundata)*

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Green in colour. - Oval-shaped with tapered tips. - Irregular teeth along the edges. - Young leaves are covered in cotton-like hairs, losing these hairs with maturity. - 3-8 cm long.	- Yellow in colour. - 11-13 petals per flower. - Daisy-like. - Occur on the ends of the stems.	**Fruits:** - Green when young, turning black with maturity. - Round and berry-like. - Each fruit contains a single seed. **Seeds:** - Bone-like colour that can be dark brown to black when dry. - Egg-shaped. - Ribbed. - 5-7 mm long.	**Stems:** - Purplish in appearance. - Woody to succulent. - Spreads along the ground. - Grows between 1-2 m tall and 2-6 m wide.

How does this weed affect you?

- Competes with native vegetation.
- Decreases biodiversity of native flora and fauna.
- Reduces the aesthetic appeal of areas and restricts recreational access to beaches and along walking trails.

How does it spread?

- Bitou bush reproduces entirely by seed.
- Mature plants can produce up to 48,000 seeds per year.
- Seeds can be dispersed by birds, and other animals that eat the fruit and disperse the seeds through their droppings.
- Seeds can be dispersed by ocean currents and water.
- Seeds can also be dispersed by attaching to tyres, vehicles and equipment.

Similar looking plants

Bitou bush looks similar in appearance to Boneseed (*Chrysanthemoides monilifera subsp. monilifera.)* See (Pg. 115) for distinguishing features.

Control

Pasture management, physical removal, biological and chemical control.


Bitou bush flowers and leaves.


Ripe Bitou bush fruit.


Bitou bush infestation.


Bitou bush flower and leaves.


Bitou bush grows on coastal dunes.


Bitou bush plant parts (right) compared to Boneseed plant parts (left).

Woody Weeds

Blackberry *(Rubus fruticosus spp. agg.)*

Species of Concern WoNS

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems (Canes)/Roots
- Dark green on the tops of leaves. - Lighter green on the underside. - Egg-shaped with tapered tips. - Toothed edges. - Occur in clusters of 3-5 leaves. - Alternate along the stems. - Covered in short, curved prickles. - Leaves are absent in winter.	- White or pink in colour. - Clustered in a cylinder or pyramid shape on the end of canes. - Flowers late-November to late-February.	**Fruits:** - Green berries when young, turning red to purple-black with maturity. - Are edible. - Each berry contains 20-30 seeds.	**Stems (Canes):** - Green, purplish or red depending on how much light they get. - Covered in sharp prickles. - Vertical, arched or growing along the ground. - Up to 7 m long. **Roots:** - Woody. - Main root up to 4 m deep. - Secondary roots that grow horizontally from the base for 30-60 cm, then branch down into thin roots.

How does this weed affect you?

- Unpalatable to most livestock.
- Fuel for bushfires.
- Provides shelter for pest species.
- Is a preferred food source for many pest species.
- Forms dense clusters that restrict livestock access to waterways and vehicle access via fire trails.
- Takes over pastures.
- Reduces native habitat for flora and fauna.
- Has already cost $100 million to control and in lost production.

How does it spread?

- Blackberry reproduces by seed and vegetatively.
- Seeds can be dispersed by birds, and other animals that eat the fruit and disperse the seeds through their droppings.
- Seeds also spread by water and through contaminated soil.
- When old canes touch the ground, they can sprout roots and become new plants.

Similar looking plants

It is important to accurately identify Blackberry; as it can be confused with many other native and introduced Rubus species.
See https://weeds.dpi.nsw.gov.au/Weeds/Blackberry

Control

Pasture management, physical removal, biological and chemical control.


Blackberry flowers and leaves.


Red and blue-black blackberry fruit and leaves.


Blackberry has thorny stems.


Blackberry leaves covered in black and yellow spots, damage from leaf rust fungus.

Boneseed *(Chrysanthemoides monilifera subsp. monilifera)*

Eradication WoNS

What does it look like?

Leaves	Flowers	Fruits/Seeds	Branches
- Green in colour. - Varying in shape from oval to spoon-shaped. - Irregularly serrated edges. - Alternately arranged along the stems. - New growth is covered with white hairs, that shed with maturity. - 3-9 cm long.	- Yellow in colour. - 5-8 petals per flower. - Occur in clusters on the tips of branches. - Up to 3 cm in diameter. - Flowers August-October.	- Young fruit are round, green and fleshy, turning black with maturity. - Each fruit contains a single, smooth, round seed. - Seeds are 6-7 mm in diameter and bone-coloured when dry.	- Green to purple when young, becoming woody with maturity. - Branched and upright. - Can be a spreading shrub (1-3 m tall and 1-3 m wide), or a small tree up to 6 m tall.

How does this weed affect you?

- Forms dense clusters several metres high which excludes most native understorey, especially after fire.
- Outcompetes native vegetation, making it a threat to a number of rare or endangered native species.
- Negatively impacts native fauna, due to loss of habitat and food sources.

How does it spread?

- Boneseed reproduces entirely by seed.
- One plant can produce 50,000 seeds a year.
- Birds and other animals eat the fruit and disperse the seeds via their droppings.
- Seeds can also be dispersed through contaminated landscape supplies and dumped garden waste.

Similar looking plants

Boneseed looks similar in appearance to Bitou bush (*Chrysanthemoides monilifera subsp. rotundata)*. See (Pg. 113) for distinguishing features.

Control

Biological and chemical control - *Your local council weeds officer will assist with identification and information on control, removal and eradication of this weed If you see this plant report it to your local control authority or the NSW DPI Biosecurity Helpline 1800 680 244*


Boneseed flowers close-up.


Boneseed leaves are oval-shaped with irregularly serrated edges.


Whole Boneseed plant.


Boneseed plant - Tim Moodie.


Bitou bush plant parts (right) compared to Boneseed plant parts (left).

Camel thorn *(Alhagi maurorum/pseudalhagi)*

Species of Concern *(MLLS)*

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Spines	Branches/Roots
- Blue-green in colour. - Oval to sword-shaped. - Occur at the fork of the spines along the stems. - 5-30 mm long and 2-14 mm wide.	- Purplish-red and yellow in colour. - Consist of 5 unequal petals. (The top most petal is the largest.) - Occur on the spines attached to the stems. - 6-12 mm in diameter. - Flowers November-February.	**Seedpods:** - Reddish-brown - Moulded around the seeds. - The pod has a tapered tip. - Each pod contains 1-8 seeds. - 8-30 mm long and 3 mm wide. **Seeds:** - Grey-brown or yellow in colour. - Speckled. - Kidney-shaped and smooth. - 2-3 mm long and 3 mm wide.	- Green with a brown tip. - Straight, rigid and pointy. - 6 cm long.	**Branches:** - Pale-green to grey in colour. - Erect, ribbed and mainly hairless. - Grows up to 1.5 m tall. **Roots:** - Has a main root that is thicker and vertical. - Horizontal roots and are up to 10 m long.

How does this weed affect you?

- Unpalatable to livestock.
- Competes with native and pastural vegetation.
- Extremely vigorous root system, that has been known to break through sealed bitumen roads and spread from one side to the other.

How does it spread?

- Camel thorn reproduces by seed and its roots.
- Livestock and other animals eat the fruit and disperse the seeds via their droppings.
- Camel thorn mainly disperses via its horizontal root system or root fragments by cultivation equipment.

Control

Chemical control.


Camel thorn flowers.


Camel thorn leaves and spines.


Camel thorn stems.


Camel thorn infestation.

Cape broom *(Genista monspessulana)*

Containment *(MLLS)* **WoNS**
Eradication *(RLLS)*

Common Name(s): Montpellier broom

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems
- Dark green in colour. - Oblong-shaped with tapered tips. - Hairy on the underside. - Occur in clusters of 3 leaflets. - Centre leaflet is longer than outer two.	- Bright yellow in colour. - Consist of 5 unequal petals. (The top most petal is the largest.) - Occur in clusters of 3-9 at the end of branches. - 8-12 mm long. - Flowers winter- spring.	**Seedpods:** - Green when young, turning brown to black with maturity. - Covered in fine hairs. - Inflated. - Each pod contains 5-8 seeds. - 15-25 mm long and 3-5 mm wide. **Seeds:** - Dark brown to black. - Smooth, round and slightly flat. - Up to 3 mm long.	- Young stems are ridged, green and lightly hairy, becoming woody, and hairless with maturity. - Usually has 1 main stem with many branches. - Erect, shrub that grows up to 3 m tall.

How does this weed affect you?

- Forms dense clusters that shade out and compete with smaller shrubs and ground cover species.
- Severely impacts the regeneration of overstorey plants.
- Fixes nitrogen, increasing soil fertility which encourages weeds in native areas.
- Are fuel for bushfires.

How does it spread?

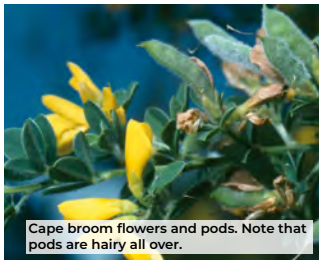
- Cape broom reproduces entirely by seed.
- Seeds are mainly dispersed via movement of soil by graders and agricultural equipment.
- Animals can also help to disperse the seeds.

Similar looking plants

It is important to accurately identify Cape broom; as it can be confused with other native species.
If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Control

Biological and chemical control.


Cape broom flowers and pods. Note that pods are hairy all over.


Cape broom plant - Paul Martin


Cape broom leaves and flowers - Paul Martin


Cape broom whole plant.


Cape broom seedpod.


Cape broom flowers.

Woody Weeds

Cat's claw creeper *(Dolichandra unguis-cati)*

Asset Protection **WoNS**

Common Name(s): Cat's claw

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems/Roots
- Green in colour. - Oval-shaped and tapered at the tips. - Hairless. - Occur in clusters of 3. - Third leaflet is modified into a 3-pronged claw-like tendril. - Each claw is 3-17 mm long and has stiff tips. - Other 2 leaflets are 2-7 cm long and 1-3 cm wide.	- Yellow in colour, with several thin, red-orange lines in the centre. - Trumpet-shaped. - Occur either solitary or in clusters in the leaf forks. - 4-8 cm long. - Flowers in spring.	**Seedpods:** - Glossy green when young, turning brown with maturity. - Long, narrow and flattened. - 15-45 cm long and 8-12 mm wide. - Pods contain numerous two-winged seeds. **Seeds:** - Papery. - 2-4 cm long.	**Stems:** Young stems are green in colour, turning light brown or grey and becoming woody with maturity. - Can have reddish-brown coloured tips. - Highly branched. - Up to 15 cm thick. - Can climb vertically, but may also creep along the ground. **Roots:** - Horizontal roots produce vertical main roots at intervals along their length. - Vertical roots can be up to 40 cm long.

How does this weed affect you?

- Cat's claw creeper can smother and kill mature trees, opening up the canopy for light-loving weeds.
- It also creeps along the ground to form a dense mat that chokes out smaller native plants.

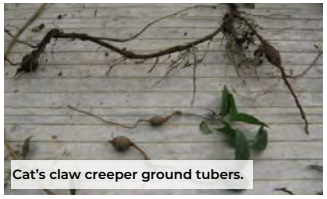
How does it spread?

- Cat's claw creeper reproduces by seed and its roots.
- Can disperse via its horizontal root system or root fragments by cultivation equipment.
- Wings of the seeds can help disperse them via wind.
- Seeds are also dispersed by water, dumped garden waste and potentially by birds and other animals.

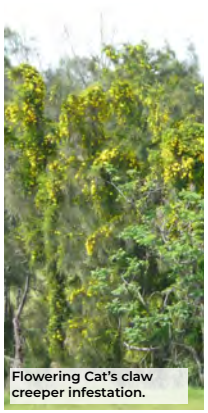
Control

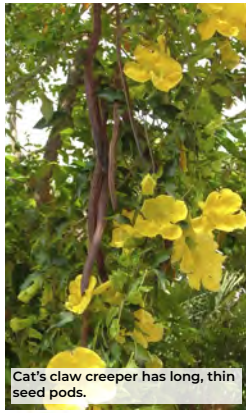
Physical removal, biological and chemical control.


Cat's claw creeper flower close-up.


Cat's claw creeper ground tubers.


Winged seeds.


Flowering Cat's claw creeper infestation.


Cat's claw creeper has long, thin seed pods.


Multiple stems climbing up a tree trunk.


Cat's claw creeper has three-pronged tendrils that look like cat's claws.

Flax-leaf broom *(Genista linifolia)*

Eradication *(MLLS)* **WoNS**
Asset Protection *(RLLS)*

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems
- Dark green in colour. - Underside is densely covered in fine hairs giving it a silvery appearance. - Fleshy. - Narrow, and slender with tapered tips. - Occur in clusters of 3. - Arranged alternately along the branch. - 10–25 mm long and 1–4 mm wide .	- Bright yellow in colour. - Consist of 5 unequal petals. (The top most petal is the largest.) - Occur in clusters of 3–16 at the tips of branches. - 10–15 mm long. - Flowers August-November.	**Seedpods:** - Green when young, turning brown-black with maturity. - Oval-shaped and hairy. - 10–30 mm long and 5 mm wide. - Each pod contains 2–3 seeds. **Seeds:** - Olive green to brown in colour. - Round. - Hard coated. - 2–3 mm in diameter.	- Brownish-green in colour. - Covered in fine short 'woolly' grey hairs when young, becoming less hairy with maturity. - Ridged. - Consists of 1 main stem with many branches above. - Grows up to 3 m tall.

How does this weed affect you?

- Increases the amount of nitrogen in the soil, reducing the growth of native vegetation.
- Outcompetes shrubs and ground flora.
- Provides shelter for pest animals and reduces food sources for native fauna.

How does it spread?

- Flax-leaf broom reproduces entirely by seed.
- Seed pods burst, dispersing seed.
- Seeds can be dispersed by soil movement, equipment and vehicles.
- Seeds can also potentially be dispersed by birds and other animals.

Similar looking plants

It is important to accurately identify Flax-leaf broom, as many species of broom are similar in appearance. See https://weeds.dpi.nsw.gov.au/Weeds/Details/121 for distinguishing features.

Control

Physical removal and chemical control.


Flax-leaf broom flowers.


Flowers and leaves.


Flax-leaf broom seedpods.


Flax-leaf broom whole plant.


Flax-leaf broom leaves, stems and seedpod.

Galvanised burr *(Sclerolaena birchii)*

Species of Concern

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Green and densely covered in fine white hairs, that give the plant a blue-green appearance. - Egg-shaped. - Flat. - Alternately arranged along the stem. - 12-15 mm long and 4-7 mm wide.	- Flowers are not noticeable. - Occur solitary in the forks of the leaves. - Flowers most of the year.	- Fruits are burrs, that are hard and woolly. - Has 4-5 horizontal spines. - The shortest spines are clustered together. - The longest spine is up to 15 mm long. - Each burr contains 1 seed. - Burrs are 2-3 mm in diameter.	**Stems:** - Densely covered in fine white hairs that give the plant a blue-green appearance. - Short, woolly branches. - Short, brown, pointy spines occur along the stems. - Grows up to 1 m tall and 1 m wide. **Roots:** - Main root can be up to 80 cm deep. - Secondary shallow roots branching from the main root.

How does this weed affect you?

- Unpalatable to livestock.
- Burrs attach to fleece making shearing more difficult and expensive.
- Reduces wool value by causing 'vegetable fault'.
- Restricts stock movement and movement of cultivation equipment.
- Competes with pastural and native vegetation.

Leaves and spiny burrs of Galvanised burr.

How does it spread?

- Galvanised burr reproduces entirely by seed.
- Seeds are dispersed as stem pieces with burrs that break off and become a tumbleweed that is moved by the wind.
- Stem pieces with burrs can also be dispersed by attaching to the fur and wool of animals.

Galvanised burr spines close-up.

Control

Pasture management and chemical control - Galvanised burr removal is managed under the *Native Vegetation Act 2003* so seek advice from your local weeds officer regarding restrictions and requirements.

Infestations occur close to fence lines.

Galvanised burr whole plant.

Gorse *(Ulex europaeus)*

Eradication **WoNS**

Common Name(s): Common gorse, golden gorse

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Branches/Roots
- Dark green in colour. - Turn into spines with maturity. - Narrow and rigid. - Have a waxy coating and occasionally hairy. - 6–30 mm long and 1.5 mm wide.	- Bright yellow in colur. - Consist of 5 unequal petals. (The top most petal is the largest.) - Occur either in clusters at the tips of the branches or solitary in the leaf forks. - 15–25 mm long. - Have a distinct coconut scent.	**Seedpods:** - Grey when young, turning black with maturity. - Oblong and inflated. - Covered in fine hairs. - Each pod contains 1-6 seeds. - 10-20 mm long and 6 mm wide. **Seeds:** - Brown-green in colour. - Heart-shaped. - Very hard. - Up to 4 mm long.	**Branches:** - Green, soft and hairy when young, turning brown and woody with maturity. - Heavily branched and deeply wrinkled. - Each smaller branch ends in a single sharp spine. - Grows up to 2.5 m tall. **Roots:** - Deep and extensive root system. - Can form roots along branches.

How does this weed affect you?

- Increases fuel for bushfires.
- Forms dense impenetrable clusters, restricting access for stock movement and vehicles.
- Reduces pasture carrying capacity.
- Provides shelter for pests.
- Competes with native vegetation.

Gorse flower sprig.

How does it spread?

- Gorse reproduces entirely by seed.
- Each plant can produce thousands of seeds per year and seeds are viable for up to 30 years.
- Seedpods burst, dispersing seeds.
- Seeds can be dispersed by soil movement, water, equipment and vehicles.
- Seeds can also potentially be dispersed by birds and other animals.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244

Gorse whole plant.

Left to right: Scotch broom; Cape broom; Gorse.

Green cestrum *(Cestrum parqui)*

Containment *(MLLS)*

Species of Concern *(RLLS)*

Common Name(s): Green poison berry, Chilean cestrum

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Bark/Roots
- Green to dark green in colour. - Tapered at both ends with smooth edges. - Alternate along the branch. - Shiny. - 80–100 mm long and 20–30 mm wide.	- Yellow to green in colour. - Trumpet-shaped. - 5–7 small, triangular petals per flower. - Occur in clusters at the end of branches. - Pungent smelling during the day. - Sweet smelling in the evening. - 20–25 mm long. - Flowers late-spring to autumn.	**Fruits:** - Green when young, turning black with maturity. - Shiny, egg-shaped berries. - Shrivelled and become dull when over-ripe. - Occur in clusters. - 7–10 mm long. - Occur from summer to autumn. - Each berry contains several seeds. **Seeds:** - Dark green to brown in colour. - Wrinkled. - 3–5 mm long.	**Stems/Branches:** - Young stems are light green and hairy, becoming paler and hairless, finally becoming woody and speckled grey with maturity. - Brittle. - Bark has verticle stripes going up the mature tree. - Grows up to 3 m tall. **Roots:** - Extensive and shallow root system.

How does this weed affect you?

- Is highly toxic to animals and humans, causing a range of illnesses and even sudden death.
- Forms dense clusters of vegetation that prevent regeneration of native species.

How does it spread?

- Green cestrum reproduces by seed and root fragments.
- Birds and other animals eat the berries and disperse the seeds through their droppings.
- It can be dispersed through water or in dumped garden waste.
- It can also disperse root fragments that are dislodged or broken during cultivation activities.

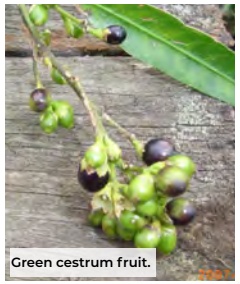
Control

Pasture management, physical removal and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Green cestrum flowers close-up.


Green cestrum in flower.


Green cestrum whole plant.


Green cestrum fruit.


Green cestrum flower and leaf formation.


Immature & mature fruit.

Honey locust *(Gleditsia triacanthos)*

Species of Concern

Common Name(s): Bean tree, McConnel's curse, sweet locust, thorny honey locust

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Branches/Roots
- Green in colour. - Made up of many tiny leaflets, giving it a fern-like appearance. - Oval-shaped with slightly toothed edges. - Alternate along the stems. - Leaflets are 1-38 mm long and 4-12 mm wide. - Leaves fall off in winter.	- Green to creamy yellow in colour. - Petals are 3-6 mm long. - A plant will either have female OR male flowers. - Flowers October-November. **Male:** - Occur as long drooping clusters on golden hairy branches. - Stalkless. - Clusters are 5-7 cm long. **Female:** - Occur either solitary or in small clusters on drooping branches. - Have stalks.	**Seedpods:** - Green when young, turning dark brown to deep red with maturity. - Flat and slightly curved. - Does not split open to release their seeds. - Pods contain 15-25 seeds per pod. - 15-45 cm long and 2.5-4 cm wide. **Seeds:** - Dark brown in colour. - Egg-shaped. - 10 mm long.	- Younger branches are brown and shiny, turning grey and developing a thick layer of bark with maturity. - Branches have very large branched spines that can be up to 18 cm long. - Grows up to 20 m tall. **Roots:** - Has an extensive root system.

How does this weed affect you?

- The sharp spines on its branches can injure wildlife.
- Forms dense clusters that prevent livestock accessing water.
- Outcompetes and replaces native vegetation.
- Reduces habitat available to native fauna.

How does it spread?

- Honey locust reproduces by seed and its root system.
- Seeds can be dispersed over considerable distances by wind or water movement.
- Birds and other animals eat the pods and disperse the seeds through their droppings.
- Plant can regrow from damaged root system and ornamental forms can dispersed in dumped garden waste.

Control

Chemical control.


Seedpods of Honey locust.


Male flower cluster and close up of leaflets.


Honey locust leaves and large spines.


Honey locust leaves and large spines.


Honey locust whole plant.

Karroo acacia *(Vachellia karroo)*

Common Name(s): Karroo thorn

What does it look like?

Leaves	Flowers	Seeds/Seed pods	Branches/Spines
- Light green in colour. - Each leaf is made up of a cluster of 8 to 20 pairs of tiny leaflets, giving it a fern-like appearance. - Oblong-shaped. - Hairless. - Each leaflet is 4-9 mm long and up to 2.5 mm wide. - Entire leaflet cluster is 12 cm long and 5 cm wide.	- Yellow to golden yellow in colour. - Occur in fluffy, pom-pom shaped clusters of 90 tiny flowers. - Flower clusters occur in groups of 4-6. - Sweetly scented. - 1–1.5 cm in diameter.	**Seed pods:** - Green and shiny when young, turning brown and woody with maturity. - Crescent-shaped. - Flat. - Slightly moulded around the seeds. - 16 cm long and 1 cm wide. **Seeds:** - Brown in colour. - Oval-shaped. - Shiny. - Can remain attached to the pod by a thread. - 3.5-9 mm long and 2-7 mm wide.	**Branches:** - Branches are red in colour when young with green tips, turning grey-white to grey-brown with maturity. - Main trunk is reddish-brown to black in colour, with rough and wrinkly bark. - Grows up to 15 m tall. **Spines:** - White in colour. - Straight and rigid. - Very sharp. - Occur in pairs. - Are longer, stronger and more crowded at the base of the trunk. - 10-25 cm long.

How does this weed affect you?

- Its sharp spines can injure humans, livestock, pets and wildlife.
- Forms dense clusters that supress pastural and native vegetation, reducing productivity in grazing land.
- Restricts movement of animals and humans and makes mustering difficult.
- Restricts access to waterways.
- Reduces habitat for native fauna.

How does it spread?

- Karroo acacia reproduces entirely by seed.
- Large trees can produce up to 19,000 seeds per year.
- Seeds can remain viable in the soil for over 7 years.
- Livestock and other animals eat the seeds and disperse the seeds through their droppings.
- Seeds and pods can also be dispersed short distances by wind and water.

Similar looking plants

It is important to accurately identify Karroo acacia, as it can be confused with other non-Indigenous acacias. See https://weeds.dpi.nsw.gov.au/Weeds/Details/159 for distinguishing features.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Fluffy, yellow, ball-shaped flowers.


Karroo thorn crescent-shaped seedpods.


The yellow flowers of Karroo acacia are prominent during summer.


Karroo acacia leaves and spines.

Koster's curse *(Clidemia hirta)*

Common Name(s): Clidemia, soapbush, hairy clidemia

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Bright green and shiny on top. - Lighter green on the underside. - Oval-shaped, with a tapered tip and finely toothed edges. - Prominently veined with 5 veins running length ways. - Covered with stiff hairs. - Arranged in opposite pairs along the stem. - 5–14 cm long and 4–7 cm wide.	- White or pinkish in colour. - 5 petals per flower. - Occur in clusters of 6–20 in the forks of the leaves, or at the tips of branches. - 0.5–1.5 cm in diameter. - Flower all year, except in dry conditions.	**Fruits:** - A reddish-purple berry when young, becoming dark purple, blue or black with maturity. - Covered in stiff, reddish-brown hairs. - Each fruit contains up to 800 seeds. - 4–9 mm in diameter. **Seeds:** - Light brown in colour. - Round. - 0.5-0.6 mm long.	**Stems:** - Covered with stiff reddish-brown hairs. - Round. - Grows up to 5 m tall. **Roots:** - Horizontal. - Extensive and fibrous.

How does this weed affect you?

- Toxic to livestock and grazing animals.
- Forms dense clusters that smother pastural and native vegeatation.
- Outcompetes pastures, reducing production.

How does it spread?

- Koster's curse reproduces by seed and vegetatively.
- Each plant is capable of producing 700,000 seeds per year.
- Seeds remain viable for over 8 years.
- Most seeds are dispersed by birds and other animals that eat the berries and disperse the seeds through their droppings.
- Seeds can also disperse long distances through floodwaters or contaminated soil on footwear or tyres.
- Cuttings, detatched leaves and stems can disperse through human activity.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Koster's curse leaf and flower close-up.


Koster's curse fruit.


Koster's curse whole plant.


Koster's curse leaves.


Koster's curse has hairy leaves and fruit.

Woody Weeds

Mesquite *(Prosopis species)*

Eradication **WoNS**

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Bark/Branches/Spines/Roots
- Bright green in colour. - Each leaf is made up of a cluster of up to 8 pairs of tiny leaflets, giving it a fern-like appearance. - Occur at each point where the branch changes direction.	- Green to cream-yellow in colour. - Occur in a cylindrical cluster on the tips of branches. - Clusters are 5–8 cm long. - Flowers in spring and early summer.	**Seed pods:** - Green when young, turning straw-coloured or purplish with maturity. - Seed pod is smooth. - Slightly moulded around each seed. - Up to 20 cm long. - Each pod contains 5–20 seeds.	**Bark/Branches:** - Bark is smooth and dark red-green in young stems, turning rough and grey with maturity. - Branches have a distinctive zig-zag shaped. - Plant can either be a single-stemmed tree or a multi-stemmed shrub with drooping branches. - Tree grows up to 15 m tall. - Shrub grows 3-5 m tall. **Spines:** - Cream in colour. - Are sharp. - Occur in pairs along the main stem. - Up to 75 mm long. **Roots:** - Deep main root. - Extensive secondary root system branching from main root.

How does this weed affect you?

- Outcompetes pastural and native vegetation.
- Forms dense clusters that restrict access to waterways.
- Hinders mustering.

How does it spread?

- Mesquite species reproduces by seed, and its extensive root system can produce new stands of plants.
- Seeds can be dispersed by birds, livestock and other animals that eat the berries and disperse the seeds through their droppings.
- Seeds only germinate when the outer casing has been damaged, so water, fire and animal consumption help trigger germination.

Control

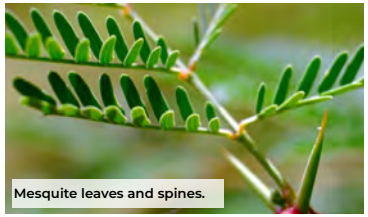
Biological and chemical control - *If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.*


Mesquite's lamb's tail-shaped flower.


Mesquite has clusters of greenish to cream-yellow flowers.


Young Mesquite seedpods.


Long, sharp spines of Mesquite.


Mesquite leaves and spines.

Mimosa *(Mimosa pigra)*

Prevention **WoNS** **PM**

Common Name(s): Giant sensitive tree, giant mimosa, bashful plant

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems/Spines/Roots
- Bright green in colour. - Each leaf is made up of a cluster of 20-45 pairs of tiny leaflets, giving it a fern-like appearance. - Leaflets fold together at night or when they are touched.	- Pink-mauve in colour. - Occur in fluffy, pom-pom shaped clusters of 100 tiny flowers. - Flower clusters occur in groups of 1-3 on the tips of stems. - Flower cluster is 1–2 cm in diameter. - Each flower cluster produces 10–20 pods.	**Seedpods:** - Green when young, turning brown with maturity and break into segments. - Crescent-shaped. - Covered in fine hairs. - 6–8 cm long. **Seeds:** - Light brown to greenish-brown in colour. - Flat and oblong-shaped. - Each segment within the pod contains 1 seed. - 4-6 mm long.	**Stems:** - Green when young, turning woody and grey in colour with maturity. - Grows up to 6 m tall. **Spines:** - Green with black tips. - Curved. - Large (5-10 mm long) on major stems, and smaller on the branches between leaves. **Roots:** - Branching main root. - Up to 1-2 m deep.

How does this weed affect you?

- Forms dense clusters that replace native vegetation.
- Threatens Indigenous Cultural activities and agricultural and tourism industries.
- Outcompetes vegetation.

How does it spread?

- Mimosa reproduces entirely by seed.
- Large trees can produce up to 220,000 seeds per year.
- Seed pod segments float on water or attach to clothing.
- Seeds can be dispersed by livestock and other animals that eat the pods and disperse the seeds through their droppings.
- Seeds can also disperse by attaching to the fur or fleece of animals or agricultural equipment and vehicles.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Mimosa flowers are pink-mauve and mainly occur during the wet season.


Mimosa leaves.


Stands of Mimosa outcompete virtually all other forms of vegetation.


Mimosa is called giant sensitive plant, as its leaves constrict when touched.


Ripe Mimosa seedpods.

Woody Weeds

Parkinsonia *(Parkinsonia aculeata)*

Prevention WoNS

Common Name(s): Jerusalem thorn

What does it look like?

Leaves	Flowers	Seeds/Seed pods	Stems/Spines
- Green in colour. - Each leaf is made up of a cluster of alternating, tiny leaflets. - Leaflets are oblong-shaped and 4–10 mm in length. - Leaf clusters are up to 30 cm long and 2–3 mm wide.	- 5 petals per flower, 4 are yellow and 1 is orange or orange spotted. - Orange petal is erect. - Petals are wrinkled. - Occur in clusters of 8-17 from the fork of the leaves. - 2 cm in diameter. - Fragrant. - Flowers winter-spring.	**Seed pods:** - Straw-coloured. - Hairless and leathery. - Straight, with tapered ends. - Pods are moulded around the seeds. - Each pod contains 1–4 seeds, occasionally 11. - Up to 10 cm long. **Seeds:** - Olive to brown in colour. - Sometimes speckled. - Oblong-shaped. - 8–10 mm long.	**Stems:** - Green in colour. - Hairless. - Zig-zag or drooping appearance. - Grows as a shrub or small tree, up to 8 m tall. **Spines:** - Orange in colour. - Very sharp. - Grow in the fork of the leaves. - 5-15 mm long.

How does this weed affect you?

- Forms dense clusters near waterways, reducing water flow, causing erosion and loss of native habitat.
- Restricts access to land and waterways.
- Degrades pasture and replaces native plant species.
- Provides shelter for pests.

How does it spread?

- Parkinsonia reproduces entirely by seed.
- Mature trees produce around 5,000 seeds per year.
- Seed pods mainly disperse by floating on water.
- Seeds can also be dispersed through the movement of contaminated soil.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Parkinsonia leaves and spines.


Parkinsonia thrives around watercourses.


Parkinsonia pods and leaves.


Parkinsonia flowers close-up.

Pond apple *(Annona glabra)*

Prevention WoNS PM

Common Name(s): Alligator apple, custard apple

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Upper surface is light green when young, darkening with maturity. - Underside of the leaf is paler and has a prominent midvein. - Egg-shaped with a tapered tip. - Glossy. - Alternate along the stem. - 7–12 cm long.	- Creamy white to light yellow, with bright red markings. - 3 leathery outer petals per flower. - 3 smaller inner petals. - Centre of the flower looks like a sunny-side-up egg. - 2-3 cm in diameter. - Flowers during summer.	**Fruits:** - Green when young, turning yellow with maturity and black when overripe. - Round and smooth-skinned. - Edible. - 5–15 cm diameter. **Seeds:** - Light brown in colour. - Look similar to pumpkin seeds. - Each fruit contains 140 seeds. - 10-15 mm long.	**Stems:** - Single-stemmed plants with grey bark. - Multiple seedlings can fuse together to form multi-stemmed plants. - Grows between 3-15 m tall. **Roots:** - Has a horizontal root system. - Can be seen aboveground.

How does this weed affect you?

- Can form extremely dense forests that replace everything in the canopy layer.
- Also competes with understorey vegetation and prevents the regeneration of overstorey vegetation.
- Reduces breeding sites, shelter and food sources for native fauna.

How does it spread?

- Pond apple reproduces by seed and its horizontal root system.
- Produces extremely large quantities of seeds.
- Seeds and fruit can be dispersed by floating on water.
- Seeds can be dispersed by fauna that eat the fruit and disperse the seeds through their droppings.
- New plants can form along the horizontal root system.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Pond apple flower close-up.


Pond apple seedlings.


Pond apple infestation.


Pond apple can form tall, dark forests.


Pond apple fruit.

Woody Weeds

Prickly acacia *(Vachellia nilotica)*

Prevention WoNS

Common Name(s): Blackthorn, Egyptian acacia

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems/Spines/Roots
- Green to dark green in colour. - Each leaf is made up of a cluster of 10–25 pairs of tiny leaflets. - Leaflets are oval-shaped. - Leaflets are 3–6 mm long. - Leaf clusters are 30–40 cm long.	- Bright to golden yellow in colour. - Occur in fluffy, pom-pom shaped clusters of 30-50 tiny flowers. - Flower clusters occur in groups of 2-6 in the fork of the leaves. - Flower clusters are 1–1.2 cm in diameter.	**Seedpods:** - Grey-green when young, turning dark green or brown with maturity. - Flat and covered in fine hairs. - Moulded around each seed. - Each pod contains 8–10 seeds. - Seed pods 10–20 cm long. **Seeds:** - Brown to dark brown in colour. - Disc-shaped. - Very hard and smooth. - 6-7 mm long and 4-7 mm wide.	**Stems:** - Orange to green with spines when young, becoming woody, less spiny and darkening with maturity. - Mature stems have rough bark with cracks. - Grows between 4-10 m tall. **Spines:** - Grey in colour. - Occur in pairs on young stems. - 1-5 cm long. **Roots:** - Consists of a deep main root.

How does this weed affect you?

- Forms dense, spiney clusters reducing growth of understorey.
- Outcompetes pastural vegetation.
- Increases water and wind erosion and leads to soil degredation.
- Threatens biodiversity of native flora and fauna.
- Interferes with stock mustering and restricts livestock access to shade and water.
- Impacts Indigenous Cultural activities and agricultural and tourism industries.

How does it spread?

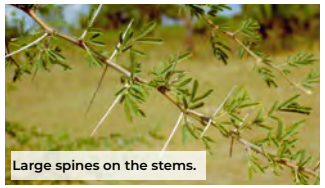
- Prickly acacia reproduces entirely by seed.
- Produces 175,000 seeds per tree, each year.
- Pods and seeds can be dispersed through water.
- It can also be dispersed by cattle that eat the seeds and disperse them via droppings.

Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Prickly acacia can form dense thickets - a roadside infestation.


Prickly acacia has ball-shaped, fluffy, yellow flowers.


Large spines on the stems.


Prickly acacia seedpods are moulded around each seed.

Privet - Broad-leaf *(Ligustrum lucidum)*

Species of Concern *(RLLS)*

Common Name(s): Glossy privet

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Dark green and glossy on top. - Paler and duller with distinct veins on the underside. - Oval-shaped with tapered tips. - Hairless. - Occur in opposite pairs along the stem. - 4–13 cm long and 3–6 cm wide.	- Cream to white in colour. - Trumpet-shaped. - 4 petals per flower. - Occur in large, branched clusters. - Sickly sweet fragrance. - Each flower is 3.5–6.0 mm long. - Clusters are 8-25 cm long. - Flowers spring-summer.	**Fruits:** - Berries are green when young, turning glossy red to blue or purplish black with maturity. - 9 mm long and 12 mm in diameter. - Each berry contains 2 seeds. **Seeds:** - Oval-shaped and ribbed. - 5 mm long.	**Stems:** - Green when young, developing smooth brown to grey bark with maturity. - Covered in small, white, raised glands. - Grows up to 10 m tall. **Roots:** - Woody. - Branching - Thickened at the base. - Shallow.

How does this weed affect you?

- Berries and leaves are toxic to humans and livestock if ingested and can cause a range of health problems.
- Its pollen can cause a range of allergic reactions or hay fever.
- Dense clusters of privet prevent other vegetation from growing.
- Reduces yields in orchards, pastures and plantations.
- Reduces food and habitat for native fauna, threatening biodiversity.

How does it spread?

- Broad-leaf privet reproduces entirely by seed.
- Seeds can be dispersed by birds, livestock and other animals that eat the berries and disperse the seeds through their droppings.
- Seeds can also be dispersed through flowing water, dumped garden waste and the sale of plant parts at nurseries and markets.

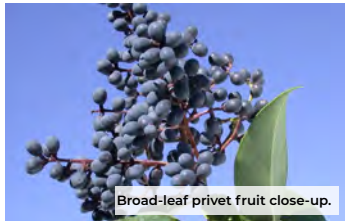
Similar looking plants

It is important to accurately identify Broad-leaf privet as it can be confused with other native and introduced of privet species.
If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Control

Physical removal and chemical control.


Broad-leaf privet flowers.


Broad-leaf privet fruit close-up.


Broad-leaf privet leaves.


Broad-leaf privet with fruit.

Woody Weeds

Privet – Narrow-leaf *(Ligustrum sinense)*

Species of Concern *(RLLS)*

Common Name(s): Chinese privet, small-leaf privet

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Branches/Roots
- Dull green in colour. - Underside is paler and covered in fine hairs. - Oval-shaped with a tapered tip. - Wavy along the edges. - Arranged in opposite pairs along the stem. - 20-50 mm long and 15-25 mm wide.	- White - Trumpet-shaped. - 4 petals per flower. - Occur in clusters at the tips of stems. - Very fragrant. - 1-5 mm long. - Flowers in spring.	**Fruits:** - Green berries when young, turning dull purple or blue-black with maturity. - 5 mm in diameter. **Seeds:** - Oblong. - Occur in pairs inside the berries. - 3-4 mm long.	**Stems/Branches:** - Stems have smooth, brown to grey bark. - Branches have smooth, green to grey bark. - Young branches are covered in fine short hairs. - Small branches have small, white, raised pores. **Roots:** - Woody. - Branching - Thickened at the base. - Shallow.

How does this weed affect you?

- Berries and leaves are toxic to humans and livestock if ingested and can cause a range of health problems.
- Its pollen can cause a range of allergic reactions or hay fever.
- Dense clusters of privet prevent other vegetation from growing.
- Reduces yields in orchards, pastures and plantations.
- Reduces food and habitat for native fauna, threatening biodiversity.

How does it spread?

- Narrow-leaf privet reproduces by seed and its root system.
- Seeds can be dispersed by birds, livestock and other animals that eat the berries and disperse the seeds through their droppings.
- Seed can also be dispersed through flowing water, dumped garden waste and the sale of plant parts at nurseries and markets.
- Its root system can create new plants close to the parent plant, forming dense clusters of Narrow-leaf privet.

Similar looking plants

It is important to accurately identify Narrow-leaf privet as it can be confused with other native and introduced of privet species.

If you see this plant, report it to your local council for accurate identification and advice on the best control strategies for your situation.

Control

Physical removal and chemical control.


Narrow-leaf privet flowers.


Narrow-leaf privet has opposite leaves that have wavy edges.


Young branches of Narrow-leaf privet are covered in fine, short hairs.


Narrow-leaf privet leaves.

Rhus tree *(Toxicodendron succedaneum)*

Species of Concern

Common Name(s): Japanese lacquer tree, wax tree

What does it look like?

Leaves	Flowers	Fruits/Seeds	Bark/Branches/Roots
- Bright green on top. - Waxy coating on the underside giving it a greyish appearance. - Hairless. - Each leaf is made up of a cluster of 9-15 pairs of large leaflets. - Leaflets are oval-shaped with tapered tips. - Leaflets are 4–10 cm long and 2–3 cm wide. - Leaf cluster is 20–35 cm long. - In autumn they change to a brilliant red before they fall.	- Creamy-white to yellow-green in colour. - Occur in large clusters at the tip of the branches - Clusters are 8–15 cm long. - Individual flowers are 2-6 mm in diameter. - Flowers spring-summer.	**Fruits:** - Green fruit when young, turning pale brown with maturity. - Papery skin. - Hard, semi-round fruit. - Each fruit contains a single, hard seed. - 5–11 mm in diameter. **Seeds:** - Dark brown in colour. - Almost round in shape. - 3-5 mm in diameter.	**Bark/Branches:** - Smooth grey to brown bark on the trunk of the tree. - Younger branches have small, white raised pores. - Erect trunk. - Grows between 5-8 m tall. **Roots:** - Extensive horizontal root system.

How does this weed affect you?

- Rhus is a highly toxic, allergy-causing tree.
- Causes dermatitis and painful allergic reactions from all parts of the plants.

How does it spread?

- Rhus tree reproduces by seed and its root system.
- Dispersal mainly occurs by birds, livestock and other animals eating the fruits and dispersing the seeds through their droppings.
- Seeds can also be dispersed in contaminated soil and dumped garden waste.
- Its root system can create daughter plants close to the parent plant.

Similar looking plants

Rhus tree may be mistaken for Chinese pistachio *(Pistacia chinensis)*. However, the leaf clusters of Rhus trees end in a single leaflet, while the Chinese pistachio leaf clusters end in a pair of leaflets. Rhus tree can also sometimes be confused with Tree-of-heaven (Pg. 139). Tree-of-heaven's leaves turn yellow before shedding, whereas Rhus tree's leaves turn a brilliant red.

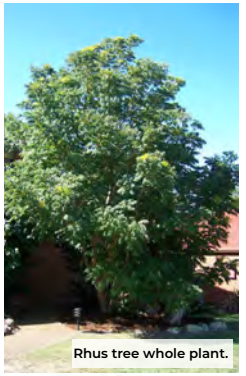
Control

Chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Rhus tree flowers and leaves.


Rhus tree leaves and fruit in autumn.


Rhus tree leaves.


Rhus tree whole plant.

Rubber vine *(Cryptostegia grandiflora)*

Prevention **WoNS PM**

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems/Roots
- Dark green in colour. - Paler and duller on the underside with a red to purple midvein. - Oval-shaped with a tapered tip. - Glossy. - Occur in pairs along the stem. - 6–10 cm long and 3–5 cm wide.	- Light-purple, pink or white in colour. - Trumpet-shaped. - 5 petals per flower. - Petals are partially fused. - Occur in small clusters at the tip of the stems. - Up to 5 cm long and in diameter. - Flowers mainly in summer.	**Seedpods:** - Green to brown in colour. - Rigid. - Long and papery with tapered tips. - Occur in pairs at the end of short stems. - Each pod contains up to 840 seeds. - Up to 12 cm long and 4 cm wide. - Usually present between December and April. **Seeds:** - Brown in colour. - Flat, with a tuft of long, white, silky hairs at one end. - Egg-shaped. - 5-10 mm long.	**Stems:** - Greyish brown in colour. - Smooth with small, white, raised pores. - Filled with milky sap. - Spines occur along the stems. - Stems can be branched with many leaves, up to 2 m long. - Or, unbranched, climbing stems with fewer leaves that are 3-8 m long. - Can climb high into tree canopies or grow up to 3 m tall unsupported. **Roots:** - Up to 12 metres deep.

How does this weed affect you?

- All parts of the plant are severely toxic to humans and livestock, causing burning, rashes and blisters if touched and particles from the plant can cause irritation.
- Forms dense clusters that smother and kill other plants.
- Restricts livestock movement and hinders mustering.
- Threatens native flora and fauna
- Reduces the water quality of streams.


Rubber vine flowers and glossy leaves.

How does it spread?

- Rubber vine reproduces entirely by seed.
- Seeds disperse short distances by wind, and long distances by water as seed pods float.
- Seeds can also be dispersed by attaching to animal fur or agricultural equipment and vehicles.


Rubber vine seedpod showing seeds with tufts of hairs to assist dispersal.

Control

Biological and chemical control - *Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244*


Rubber vine has long unbranched 'whips' which extend out of the top of the canopy.


Seedpods collected for destruction - Andy McKinnon


Rubber vine leaf detail and paired seedpods - Andy McKinnon


Base of a Rubber vine plant - Andy McKinnon

Scotch broom *(Cytisus scoparius subsp. scoparius)*

Eradication **WoNS**

Common Name(s): English broom

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems
- Green in colour. - Oval-shaped with a tapered tip. - Young leaves are hairy on both sides, becoming hairless with maturity. - Sparsely occur in clusters of 3 along the stem. - The middle leaf is the longest and is up to 20 mm long.	- Yellow in colour. - Consist of 5 unequal petals. (The top most petal is the largest.) - Occur in solitary or in pairs. - 2–2.5 cm in diameter. - Flowers late winter to late spring.	**Seedpods:** - Brown to black in colour. - Hairy on the edges. - Flat, oblong-shape with tapered tips. - Each pod is 7 cm long and 1.3 cm wide. - Each pod contains 5-22 seeds. **Seeds:** - Yellow-brown to olive green in colour. - Oval shaped, slightly flattened and smooth. - Up to 4 mm long.	- Green in colour. - Highly branched. - Woody and erect. - Upper stems usually have 5 pronounced ridges. - Shrub grows up to 4 m tall.

How does this weed affect you?

- Scotch broom is toxic to humans, causing a range of health issues from irritation to high blood pressure and weakening of the heart.
- Dense clusters can reduce drivers vision along roadsides.
- Smothers native and pastural vegetation, reducing carrying capacity of pastures.
- Forms dense clusters that restrick access to humans and livestock.
- Provides shelter for pests.


Young seedpod and flower.


Scotch broom flowers.

How does it spread?

- Scotch broom reproduces entirely by seed.
- The seed pods burst open in hot weather, dispersing seeds several meters from the parent plant.
- Seeds can then disperse further via contaminated soil or water or by attaching to animals equipment or footwear.
- Seeds can remain viable in the soil for many years.

Similar looking plants

It is important to accurately identify Scotch broom, as many species of broom are similar in appearance.
See https://weeds.dpi.nsw.gov.au/Weeds/Details/121 for distinguishing features.

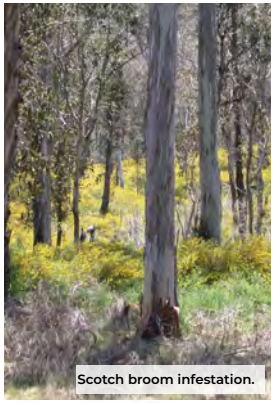
Control

Pasture management, physical removal, biological and chemical control.


Scotch broom plant.


Scotch broom stems.


Scotch broom seedpod.


Scotch broom infestation.

Siam weed *(Chromolaena odorata)*

Common Name(s): Chromolaena, triffid weed, bitter bush, Jack-in-the-bush

What does it look like?

Leaves	Flowers	Seeds	Stems/Roots
- Green in colour. - Diamond, tear-drop to arrowhead shaped. - 3 prominent veins near the base of the leaf. - Shallowly toothed on the edges, can be lobed. - Occur in opposite pairs along the stems. - 5-12 cm long and 3-7 cm wide.	- Pale blue, lilac, white or pink-mauve in colour. - Occur in clusters of up to 30 tiny flowers. - Clusters are topped with soft threads. - Clusters occur in groups of 70 at the tips of branches. - Flower clusters are 8-10 mm long and 3-4 mm wide. - Flowers from May-October.	- Blackish with a tuft of white or brown hairs on one end. - Hairs are 5-6 mm long - Seeds are 4-5 mm long.	**Stems:** - Yellowish in colour. - Finely ribbed and slightly hairy. - Branches occur in opposite pairs along the main stem. - Soft when young, becoming hard and woody with maturity. - Grows up to 2 m tall when solitary and can grow up to 20 m tall when climbing over other trees and shrubs. **Roots:** - Fibrous. - Shallow. - Bulbous near the stem.

How does this weed affect you?

- Siam weed is toxic to livestock, causing stillbirths and death.
- Can also cause skin problems and asthma in allergy-prone people.
- Increases fuel for bushfires.
- Outcompetes pasture plants, reducing productivity and crop yield.
- Competes with native vegetation.
- Can harbour pests and host fungal diseases.

How does it spread?

- Siam weed reproduces by seed and root fragments.
- Each plant produces up to 87,000 seeds.
- Seeds are easily dispersed by the wind.
- Seeds attach to clothing, animals, vehicles and equipment due to its fine hairs.
- Seeds can also disperse through contaminated agricultural produce.
- Root fragments can be dispersed through agricultural activities.

Similar looking plants

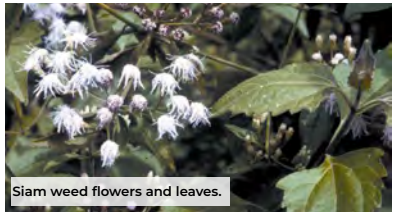
Siam weed can look similar to several other weeds present in NSW. See https://weeds.dpi.nsw.gov.au/Weeds/Details/170 for distinguishing features.

Control

Please do not attempt to treat or dispose of this weed yourself. If you see this plant, report it. Call the NSW DPI Biosecurity Helpline 1800 680 244


Siam weed seedhead close-up.


Siam weed flowers.


Siam weed flowers and leaves.


A parachute of brown hairs helps the seed spread short distances.

Spanish heath *(Erica lusitanica)*

Common Name(s): Portuguese heath

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems
- Bright green in colour. - Narrow and hairless, with rolled edges. - Occur in coils of 3-4 along the stems. - 3-7 mm long and 0.5 mm wide.	- Pink when buds, opening to become a white flower. - Bell-shaped. - 4 petals per flower. - Petals are fused together. - Occur in pairs or small clusters of up to 4 at the tips of the stems. - 3-5 mm long.	**Fruits:** - Small capsules. - Oval-shaped - Each fruit contains up to 100 tiny seeds. - Up to 3 mm long.	- Young stems are slender, green in colour and densely covered in hairs; becoming woody, brown in colour and thick with maturity. - Can grow up to 15 cm thick at the base of the plant. - Grows up to 3 m tall.

How does this weed affect you?

- Unpalatable to livestock, reducing the productivity of pastures.
- Forms dense clusters replacing native vegetation and supressing growth.
- Seriously impacts native ground covers, grasses and flowering herbs.
- Large clusters increase fuel for bushfires.

How does it spread?

- Spanish heath reproduces entirely by seed.
- A single plant produces up to 9 million seeds each year.
- The seeds are dispersed by wind, water, animals, vehicles, equipment and in dumped garden waste.

Control

Chemical control.


Spanish heath flowers close-up.


Spanish heath flowers in different stages.


Spanish heath whole plant.


Spanish heath flowers and flower buds.


Spanish heath leaves close up.


Spanish heath plant flowering.

Woody Weeds

Sweet briar *(Rosa rubiginosa)*

Species of Concern

Common Name(s): Eglantine

What does it look like?

Leaves	Flowers	Fruits/Seeds	Stems/Roots
- Dark green in colour. - The leave are made up of clusters that consist of 2-4 pairs of oval-shaped leaflets, plus 1 leaflet on the very tip of the stem. - The leaflets have serrated edges and there are short prickles on the stems of the leaf cluster. - Have an apple-like fragrance.	- Pink to white in colour. - 5 petals per flower. - Occur in loose clusters on the tips of the branches. - Flower stem is covered in sticky hairs. - Fragrant. - 20-50 mm in diameter.	**Fruits:** - Green capsules when young, turning orange-red with maturity. - Egg-shaped and fleshy. - Capsules have spikes at the end closest to the stem. - Capsules have tendrils coming off the opposite end of the fruit. - Capsules are 15-20 mm long. **Seeds:** - Yellow in colour. - Irregularly shaped. - 4-7 mm long.	**Stems:** - Smooth and green-reddish in colour when young, becoming rough and woody with maturity. - Arch at the tip of the stem. - Have many backwards curving, flat spines up to 1.5 cm long. - Shrub grows up to 3 m tall. **Roots:** - Extensive roots are at least 1 m long and branch horizontally.

How does this weed affect you?

- Sweet briar can reduce the carrying capacity of land.
- It can restrict vehicle and livestock movement.
- Harbours pest species.

How does it spread?

- Sweet briar reproduces by seed and its horizontal root system.
- Seeds can be dispersed by birds, and other animals that eat the capsules and disperse the seeds through their droppings.
- Capsules and seeds can also be dispersed by water.
- The root system and fragments of the root can produce new plants.

Control

Pasture management, physical removal and chemical control.

Whole Sweet briar shrub - Dave Saunders

Flowers, fruit and leaves of Sweet briar.

Sweet briar flowers.

Fruit and leaves close-up - Tim Moodie

Sweet briar fruits - Tim Moodie

Tree-of-heaven *(Ailanthus altissima)*

Species of Concern

What does it look like?

Leaves	Flowers	Seeds/Seedpods	Stems/Bark/Roots
- Reddish when young, turning green with maturity. - Paler on the underside with a dinstinct midvein. - Each leaf is made up of a cluster of 5-20 pairs of large leaflets, plus a single leaflet on the tip of the leaf cluster. - Clusters alternate along the stems. - Leaflets are egg-shaped and 4-15 cm long and 1.5-6 cm wide. - Usually hairless, occasionally hairy. - Leaf clusters are 40-100 cm long. - Leaves turn yellow and drop off in autumn.	- White to greenish-yellow in colour. - 5 small petals per flower. - Occur in large clusters at the tips of the branches. - Flower clusters are up to 60 cm long. - Can be pungent. - Flowers from late-spring to summer.	**Seedpods:** - Yellow to green in colour when young, turning pink to reddish-brown with maturity. - Sword-shaped and curved with a tapered tip. - Pods mould around the seeds.	**Stems:** - Intitially smooth, red-brown in colour and speckled, becoming grey to yellow-grey, woody and rough with maturity. - Grows up to 20 m tall. **Roots:** - Extensive, horizontal root system.

How does this weed affect you?

- Tree of heaven is mildly toxic to humans, causing headaches and nausea if ingested.
- The sap can cause a range of health issues, including rashes.
- The pollen can cause a hay fever reaction.
- Forms dense clusters that outcompete pastural and native vegetation, reducing carrying capacity.
- Produces chemicals that supress other plants.
- Can shade out other species with its large leaves.

How does it spread?

- Tree of heaven reproduces by seed and its horizontal root system.
- Seeds are mainly dispersed with wind and water with the assistance of the seed pods wings.
- Seeds can also be dispersed by birds, equipment and in dumped garden waste.
- The horizontal roots can form new daughter plants near the parent plant.

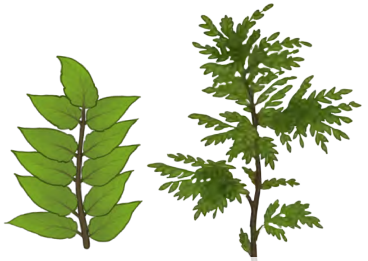
Similar looking plants

Tree-of-heaven can sometimes be confused with Rhus tree (Pg. 133).
However, Tree-of-heaven's leaves turn yellow before they are shed and Rhus tree has leaves that turn red in colour before they are shed.
Rhus also has round berry fruit, whereas Tree-of-heaven has long seed pods.

Control

Chemical control.

Tree-of-heaven flowers.



Tree-of-heaven whole plant and close up of leaves.

Tree-of-heaven whole plant.

Willows - Black willow *(Salix nigra)*

Eradication WoNS

What does it look like?

Leaves	Flowers	Seeds	Bark/Branches
- Bright green in colour. - Slender with toothed edges. - 4–10 cm long and 7–17 mm wide.	- Fragrant. - A plant will either have female OR male flowers. **Male:** - Yellow in colour. - Long and slender cluster of flower spikes with no petals. - 6–12 cm long. **Female:** - Green bulbs on short stems. - 4–6 cm long.	- Seeds are capsules that are only occur on the female flower stem. - Seeds are covered in long silky hairs that give them a cotton-like appearance. - Capsules are 4.5–5.5 mm long.	- Dark brown-to-grey in colour. - Rough with deep cracks in the bark. - Twigs are a shiny red-brown colour and are brittle at the base, snapping easily from the main stem.

How does this weed affect you?

- Forms dense clusters that divert water from river streams and wetlands, causing flooding and erosion.
- Creates a flush of organic matter when they drop leaves in autumn, reducing water quality and oxygen.
- Replaces native vegetation.
- Reduces habitat for land and aquatic fauna.

How does it spread?

- Black willow reproduces by seed and vegetatively.
- A female tree produces thousands of light fluffy seeds each year that can easily be dispersed via wind.
- Seeds and stem fragments can be dispersed via water.
- It can also cross pollinate with other willow species.

Control

Your local council weeds officer will assist with identification and information on control, removal and eradication of this weed.


Black willow bark has deep fissures.


Black willow leaves close-up.


Black willow infestation along a watercourse.


Flowers - male catkin.


Flowers - female catkin.

Willows - Grey sallow *(Salix cinerea)*

Eradication WoNS

Common Name(s): Wild pussy willow

What does it look like?

Leaves	Flowers	Fruits/Seeds	Bark/Branches
- Dark green on the top, blue-green on the underside. - Oval-shaped with a short, pointed tip. - Young leaves are hairy on both sides, remaining hairy on the underside with maturity. - Alternately arranged along the stems. - Leaves emerge after flowering occurs. - 2-7cm long and 1-4 cm wide.	- Fragrant. - A plant can have female AND male flowers. **Male:** - Golden yellow in colour. - Long and slender cluster of flower spikes with no petals. - 1.2–3 cm long and 1.3-1.8 cm wide. **Female:** - Green bulbs on short stems. - Initially 1.2-3 cm long, elongated up to 11 cm with maturity and 1.3-1.8 cm wide.	**Fruits:** - Small hairy capsules. - Capsules split into 2. - 10 mm long. **Seeds:** - Have long, silky hairs.	- The Grey sallow can be a deciduous tree, or a large shrub. **Shrub:** - Has many erect stems extending from the base. - Young stems are reddish-brown in colour and hairy. - Mature stems become hairless and droop. - Grows up to 2 m tall and is wider than it is tall. **Tree:** - Dark grey to dark grey-brown in colour. - Smooth when young, and cracks with maturity. - Can grow up to 12 m tall.

How does this weed affect you?

- Forms dense clusters and extensive root systems that divert water from river streams and wetlands, causing flooding and erosion.
- Creates a flush of organic matter when they drop leaves in autumn, reducing water quality and oxygen.
- Replaces native vegetation.
- Reduces habitat for land and aquatic fauna.
- Also invades habitats away from water.

How does it spread?

- Grey sallow reproduces by seed and vegetatively.
- Female flowers can produce thousands of light fluffy seeds each year that can easily be dispersed via wind.
- Seeds and stem fragments can be dispersed via water.
- It can also cross pollinate with other willow species.

Control

Physical removal and chemical control - *Your local council weeds officer will assist with identification and information on control, removal and eradication of this weed.*


Male catkins of Grey sallow.


Female catkin of Grey sallow.


Grey sallow whole tree - Kylie Durant


Grey sallow seeds with silky hairs.


Grey sallow leaves - Kylie Durant

Other State Prohibited Weeds

Plants not to be sold in all or parts of NSW.

Africa Olive	*Olea europaea*
Aleman grass	*Echinochloa polystachya*
Annual ragweed	*Ambrosia artemisiifolia*
Arrowhead	*Sagittaris calycina var. calycina*
Asparagus fern	*Asparagus virgatus*
Barleria	*Barleria prionitis*
Black locust	*Robina pseudoacacia*
Blue hound's tongue	*Cynoglossum creticum*
Broad-leaf pepper tree	*Schinus terebinthifolius*
Brown-top bent	*Agrostis capillaris*
Burr ragweed	*Ambrosia confertifolia*
Carrion flower	*Orbea variegata*
Cecropia	*Cecropia species*
Chinese celtis	*Celtis sinensis*
Chinese knotweed	*Persicaria chinensis*
Chinese tallow tree	*Tradica sebifera*
Clockweed	*Oenothera curtiflora*
Cockspur coral tree	*Erythrina crista-galli*
Creeping knapweed	*Rhaponticum repens*
East Indian hygrophila	*Hygrophila polysperma*
Espartillo- broad kernel	*Amelichloa caudate*
Espartillo – narrow kernel	*Amelichloa brachychaeta*
Giant devil's fig	*Solanum chrysotrichum*
Giant Parramatta grass	*Sporobolus fertilis*
Giant rat's tail grass	*Sporobolus pyramidalis*
Giant reed	*Arundo donax*
Glory lily	*Gloriosa superba*
Groundsel bush	*Baccharis halimifolia*
Harrisia cactus	*Harrisia species*
Holly leaved senecio	*Senecio glastifolius*
Hygrophila	*Hygrophila costata*
Japanese walnut	*Juglans ailantifolia*
Kei apple	*Dovyalis caffra*

Other State Prohibited Weeds

Plants not to be sold in all or parts of NSW.

Kidney-leaf mud plantain	*Hetetanthera reniformis*
Kudzu	*Pueraria lobate*
Leaf cactus	*Pereskia aculeate*
Leafy elodea	*Egeria densa*
Leucaena	*Leucaena leucocephala*
Ludwigia	*Ludwigia peruviana*
Mahonia	*Berberis lomariifolia*
Monkey's comb	*Pithecoctenium crucigerum*
Moonflower	*Ipomoea alba*
Mysore thorn	*Caesalpinia decapetala*
Nodding thistle	*Carduss nutans subsp. Nutans*
Paper mulberry	*Broussonetia papyrifera*
Paterson's curse	*Echium plantogineum*
Privet – European	*Ligustrum vulgare*
Rattlepod	*Crotalaria lunata*
Sea spurge	*Euphorbia paralias*
Seeded banana	*Musa species*
Shoebutton ardisia	*Ardisia elliptica*
Sicilian sea lavender	*Limonium hyblaeum*
Sicklethorn	*Asparagus falcatus*
Singamore daisy	*Sphagneticola trilobata*
Skunk vine	*Paederia foetida*
Spanish broom	*Spartium junceum*
Spiny burrgrass – spinifex	*Cenchrus spinifex*
Spongeplant	*Limnobium spongia*
Tobacco weed	*Elephantopus mollis*
Tustan	*Hypericum androsaemum*
Water lillies	*Nymphaea species*
Water mimosa	*Neptunia oleracea*
Water star grass	*Heteranthera zosterifolia*
White blackberry	*Rubus niveaus*
Willow rhus	*Searsia lancea*

The Pesticides Act 1999

This Act controls the use of pesticides in NSW. It aims to reduce the risks to human health, the environment, property, industry and trade. It applies to everyone using pesticides. The EPA regulates the safe and correct use of pesticides in NSW, from the point of sale, under *The Pesticides Act 1999* and the *Pesticides Regulation 2017* to protect the environment and community.
https://www.epa.nsw.gov.au/

Under *The Pesticides Act* 1999, all pesticide users in NSW must:

- Only use pesticides registered or permitted by the *Australian Pesticides and Veterinary Medicines Authority (APVMA).*
- Obtain an APVMA permit if they wish to use a pesticide in a way not covered by the label.
- Read the approved label and/or APVMA permit for the pesticide product (or have the label/permit read to them) and strictly follow their directions.
- Only keep registered pesticides in containers bearing an approved label prevent injury to people, damage to property and harm to non-target plants and animals from using a pesticide.

Australian Pesticides and Veterinary Medicines Authority (APVMA)

The APVMA's role is the regulator of agvet chemicals in Australia. They are an independent statutory authority responsible for assessing and registering pesticides and veterinary medicines proposed for supply in Australia. For more information visit the website https://apvma.gov.au/

WARNING - ALWAYS READ THE LABEL
Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this information. To view permits or product labels go to the Australian Pesticides and Veterinary Medicines Authority website www.apvma.gov.au

Integrated Weed Management

Integrated weed management (IWM) is the control of weeds through a long-term management approach that applies several different control methods such as:
- **Physical control –** Removal of weeds by physical or mechanical means.
- **Chemical Control –** Application of an approved chemical.
- **Biological Control –** Using a living organism such as a pathogen or insect to attack seeds, leaves, stems of roots of the weed.
- **Cultural Control –** Usually associated with farming systems. Can be the use of a desired species to out compete an undesirable species.

By using several techniques to control weeds, you reduce the chance that weed species will adapt to the control techniques, which is likely if only one technique is used. For example, if a herbicide is used over a long period of time, a weed species can build up a resistance to the chemical.
A long-term integrated weed management plan, that considers all available management control techniques or tools to control weeds, can be developed for a particular area. Any integrated weed management plan or strategy should focus on the most economical and effective control of the weeds and include ecological considerations.
The long-term approach to integrated weed management should reduce the extent of weeds and reduce the weed seed stock in the soil. It should consider how to achieve this goal without degrading the desirable qualities of the land, such as its native ecology or agricultural crops.

Source: https://www.environment.gov.au/biodiversity/invasive/weeds/management/integrated.html

Biological Control
Biological control (biocontrol) involves the introduction of natural enemies (insects, mites and pathogens) of a target weed to reduce and maintain the weed density at a level that is acceptable. It is an economical, self-sustaining and environmentally-friendly management technique. Biocontrol does not eradicate weeds, but can reduce populations to acceptable levels, or suppress them to levels where they can be controlled in combination with other methods.

Herbicides
Herbicides are chemical control methods that are widely used to control weeds in agricultural, commercial and domestic situations. Herbicides are chemicals that kill plants by affecting their enzyme systems, interfering with their growth processes, replacing their hormones or blocking their chemical reactions. Herbicides are effective and practical in a wide variety of situations, and often provide the most economical means of control. Some herbicides act on contact with the plant; others need to be delivered through the plant's system.
Herbicides can have potentially harmful effects on human health, livestock, and the environment. Trained users can avoid adverse effects by following the instructions on the product label.

Talk to your local weeds officer about appropriate weed control methods for specific species.

See: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0017/123317/weed-control-handbook.pdf
for more information or call the NSW DPI Biosecurity Helpline 1800 680 244.

No Space for Weeds

No Space for Weeds is a community weed awareness campaign led by DPI. It promotes the principle of 'shared responsibility' for weed management.

Things you can do to protect our communities from priority weed species:

At **HOME** is aimed at home gardeners and property owners; at **WORK** targets those who have the potential to spread weeds as part of their job; while at **PLAY** is about how to prevent the spread of weeds through recreational activities including bushwalking, camping, fishing, four wheel driving and boating.

Dumping garden and aquarium waste can spread weeds. You can stop the spread of weeds at **HOME**

- Dispose of garden and aquarium waste suitably - at a waste management centre of compost, not in the bush or waterways.
- Manage weeds at home - don't let them move next door.
- Stop weeds at your gate - don't bring them home.

Vehicles, machinery, equipment, livestock can spread weeds. You can stop the spread of weeds at **WORK**

- Check livestock and equipment for weeds and seeds.
- Wash down vehicles and machinery on site - leave weeds behind.
- Be careful not to take weeds with you to your next place of work.

Bushwalking, camping, fishing, four wheel driving and boating can spread weeds. You can stop the spread of weeds at **PLAY**

- Be careful not to take weeds to your favourite place.
- Be on the look out for weeds and seeds.
- Check and clean all your gear before you leave.

So when you see the 'No Space for Weeds' logo, get involved and learn more about how you can help solve the problem. It's easy!

Useful Websites

https://www.dpi.nsw.gov.au/biosecurity/weeds
NSW Department of Primary Industries.
Weed categories, control and identification, strategies and policy and legislation.

https://weeds.dpi.nsw.gov.au/
NSW WeedWise

http://plantnet.rbgsyd.nsw.gov.au/
PlantNET flora search.
Plant identification and species information.

http://www.nswweedsoc.org.au/
The Weeds Society of NSW Inc.
Promoting the awareness, understanding and control of weeds.

https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds
Office of Environment and Heritage.
Management of weeds in national parks, weeds and biodiversity, legislation.

https://research.csiro.au/weed-biocontrol/
CSIRO
Biological weed control information.

http://anpsa.org.au/weeds.html
Australian Native Plants Society (Australia)
Environmental weeds in Australia.

https://murray.lls.nsw.gov.au/
Murray Local Land Services
Biosecurity and Murray Regional Strategic Weed Management Plan.

https://riverina.lls.nsw.gov.au/
Riverina Local Land Services
Biosecurity and Riverina Regional Strategic Weed Management plan.

https://www.environment.vic.gov.au/invasive-plants-and-animals/weed-risk-ratings
Victoria - Department of Environment, Land, Water and Planning.

https://www.environment.vic.gov.au/__data/assets/pdf_file/0028/390970/Advisory-list-environmental-weeds-VIC.pdf
Weed risk ratings and environmental weeds in Victoria.

http://www.herbiguide.com.au
HerbiGuide
Weed information.

https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0017/123317/weed-control-handbook.pdf
NSW Weed Control Handbook.

https://www.farmbiosecurity.com.au/
Farm Biosecurity website

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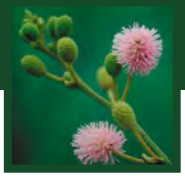
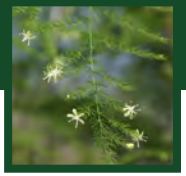
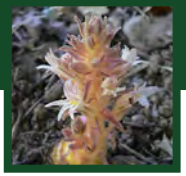
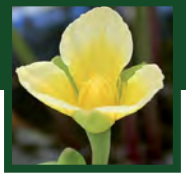



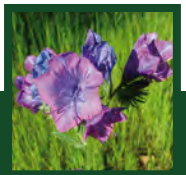
The purpose of this guide is to provide basic information to help with the identification and management of weed species that are listed as priority weeds within the *Murray and Riverina Regional Strategic Weed Management Plans*. The guide does not provide information on more common widespread weed species, with the exception of *Pattersons Curse* and *Common Heliotrope*. If you see a plant species that you are not able to identify and you suspect it is a weed, please contact your local Council for assistance.

Weed management is a shared responsibility. Further information is available from our Weedwise website: https://weeds.dpi.nsw.gov.au/ or through your Apple App store or Google Play store.

No Space for
Weeds







NSW GOVERNMENT Local Land Services

Murray and Riverina WAP